

FIG. 1A

gggcaggaagacggcgctgcccgaggagc																		-153	
ggggcgggcgggcgcgcgggggagcgggcgggcgggcgggagccagggccggggcgggggcgggggcgggcggggccag																		-77	
aagaggcgggcgggccgcgctccggccggtctgcggcggttgcccttggtttggtttggcgggcgggcggtggagaag																		-1	
ATG	CTG	CAG	TCC	CTG	GCC	GGC	AGC	TCG	TGC	GTG	CGC	CTG	GTG	GAG	CGG	CAC	CGC	TCG	57
M	L	Q	S	L	A	G	S	S	C	V	R	L	V	E	R	H	R	S	19
GCC TGG TGC TTC GGC TTC CTG GTG CTG GGC TAC TTG CTC TAC CTG GTC TTC GGC GCA																		114	
A	W	C	F	G	F	L	V	L	G	Y	L	L	Y	L	V	F	G	A	38
GTG GTC TTC TCC TCG GTG GAG CTG CCC TAT GAG GAC CTG CTG CGC CAG GAG CTG CGC																		171	
V	V	F	S	S	V	E	L	P	Y	E	D	L	L	R	Q	E	L	R	57
AAG CTG AAG CGA CGC TTC TTG GAG GAG CAC GAG TGC CTG TCT GAG CAG CAG CTG GAG																		228	
K	L	K	R	R	F	L	E	E	H	E	C	L	S	E	Q	Q	L	E	76
CAG TTC CTG GGC CGG GTG CTG GAG GCC AGC AAC TAC GGC GTG TCG GTG CTC AGC AAC																		285	
Q	F	L	G	R	V	L	E	A	S	N	Y	G	V	S	V	L	S	N	95
GCC TCG GGC AAC TGG AAC TGG GAC TTC ACC TCC GCG CTC TTC TTC GCC AGC ACC GTG																		342	
A	S	G	N	W	N	W	D	F	T	S	A	L	F	F	A	S	T	V	114
CTC TCC ACC ACA GGT TAT GGC CAC ACC GTG CCC TTG TCA GAT GGA GGT AAG GCC TTC																		399	
L	S	T	T	G	Y	G	H	T	V	P	L	S	D	G	G	K	A	F	133
TGC ATC ATC TAC TCC GTC ATT GGC ATT CCC TTC ACC CTC CTG TTC CTG ACG GCT GTG																		456	
C	I	I	Y	S	V	I	G	I	P	F	T	L	L	F	L	T	A	V	152
GTC CAG CGC ATC ACC GTG CAC GTC ACC CGC AGG CCG GTC CTC TAC TTC CAC ATC CGC																		513	
V	Q	R	I	T	V	H	V	T	R	R	P	V	L	Y	F	H	I	R	171
TGG GGC TTC TCC AAG CAG GTG GTG GCC ATC GTC CAT GCC GTG CTC CTT GGG TTT GTC																		570	
W	G	F	S	K	Q	V	V	A	I	V	H	A	V	L	L	G	F	V	190
ACT GTG TCC TGC TTC TTC TTC ATC CCG GCC GCT GTC TTC TCA GTC CTG GAG GAT GAC																		627	
T	V	S	C	F	F	F	I	P	A	A	V	F	S	V	L	E	D	D	209

FIG. 1B-1

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L L G L I A M L V V L E T	266
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggatttggtgcatt	1030
T Q S S A C V D G P A N H *	337
atgctagagcaccaggggtcaggggtgcaaggaagaggcttaagtatgttcattttttatcagaatgcaaaagcgaaaa	1106
ttatgtcactttaagaaatagctactgtttgcaatgtcttattaaaaaacaacaaaaaagacacatggaacaaag	1182
aagctgtgacccagcaggatgtctaataatgtgaggaaatgagatgtccacctaataatcatatgtgacaaaatta	1258
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ggaaactttgggggtttgcatttagatcatttagctgatggctaaatagcaaaatttatatttagaagcaaaaaaaa	1410
aaagcatagagatgtgttttataaatagggttatgtgtactgggttgcattgacccacccaaaatgattattttg	1486
gagaatctaagtcaaactcactatttataatgcataggtaaccattaactatgtacatatataaagtataaatatgtt	1562
tatattctgtacatatggttttaggtcaccagatcctagtgttagttctgaaactaagactatagatatatttggttct	1638
tttgatttctctttataactaaagaatccagagttgctacaataaaataaggggaataataaaaaaaaaaaaaa	1712

FIG. 1B-2

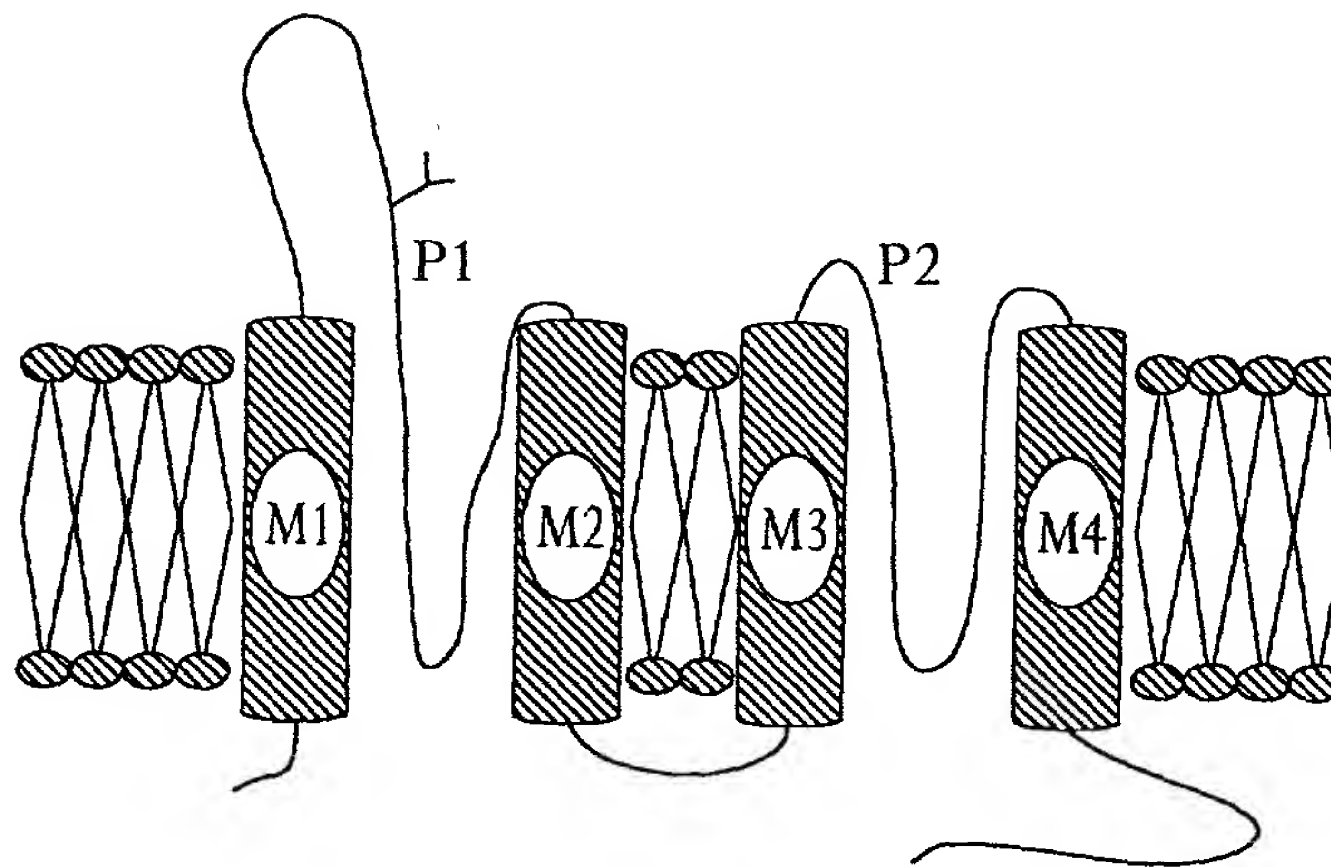
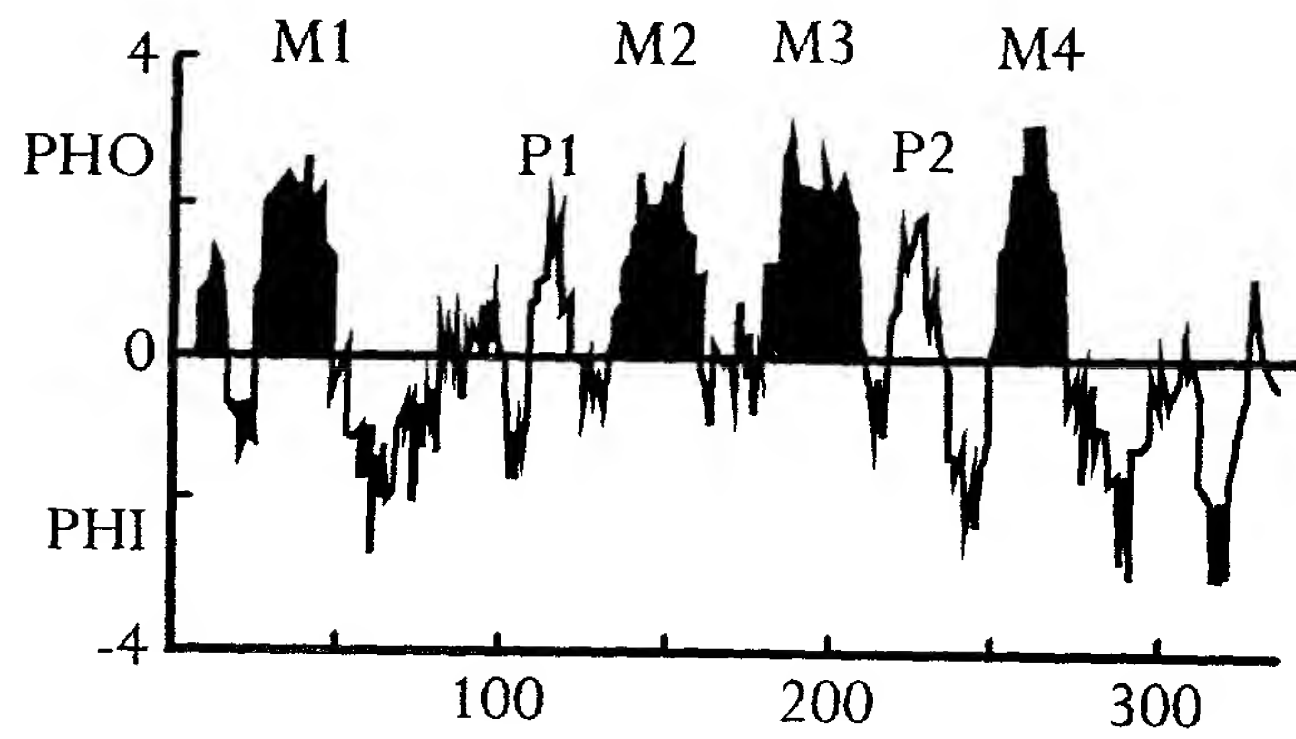


FIG. 1C

204070-090550

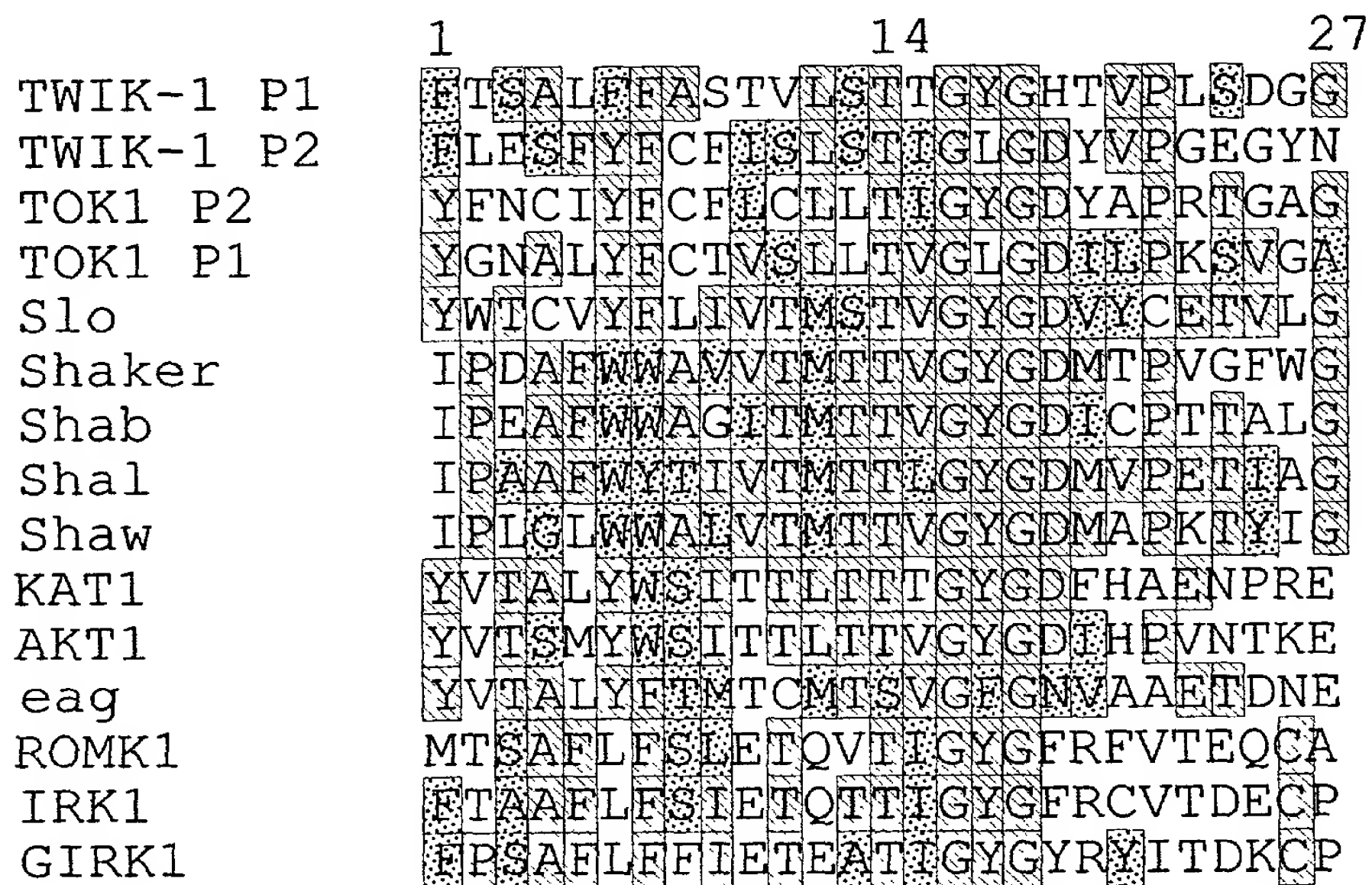


FIG. 2A

TWIK-1	1	MLOSLAGSSCVREVE-----RHRSWCF--G-----LVLCY
f17c8	1	MYTDEGEYSGDTHGGSTMQKMSPNTRONFRQNVNVVCLSAATL--
M110-2	1	MTVSMEENSKIOMLSATSKDKKVATDRSLLNKYHLGPIALHTGELVSC
TWIK-1	31	LEYLVFGAVVFSSVELPYEDLLROE-----LRKLKRRFLEEHEC---L
f17c8	47	LVNLIIGAGLEF-----YLAETONSSSES
M110-2	49	VTYALGGAYEFLSEHP-EELKRREKAIREFQDLKQOQMGNITSGIEN
TWIK-1	71	SEOOLEOLFGRVL-----EASNYGVSVLSNASGNWNW--DETSALE
f17c8	69	LNENSEV--SKCLHNLPIGGKITAEMKSKLGKCLTKSSRIDGFGKALF
M110-2	96	SEOSTEETTKKELMLEDAHNAHAEEYFFDNRELPKDMW--TFSSALV
P1		
TWIK-1	110	FASTVLESTTGYGHTVPESDGGKAFCLL-YSVIGIPFTLLELTAVVORI
f17c8	115	FSWTLYSTVGYGSEYPHSTLGRYLTIF-YSLMIPVFIAKFEFGTFL
M110-2	142	FTTTTVIPVGYGYLPPVSAYGR-MCLLAYALLGIPLTTLVTMAETGKFA
TWIK-1	157	TVH---VTRRPVL-----YELLRWGESKOVVALVHAVLLGEVTVSCFF
f17c8	162	AHFLVVVSNRTRLAVKKAYKES-QNPENAETPSNSLOHDYLLFLSSI
M110-2	189	AQL---VTR-----W-FGDNNMAIPAAITV-----CLL
P2		
TWIK-1	197	FL-PAAMFS---VL-EDDWNLESEFYFCFISLSTIGEGDYVRGEGYN
f17c8	209	LLCSSELSSSAEFSSTENISYLSVYFGITMFLIGEGDYVPTN---
M110-2	213	FAYPLVVGf---LCSTSNITYLDSVYFSLTSEFTIGFGDLTP-----
TWIK-1	239	QKFRELYKIGETCYLELGLTAMLVLETFC-----EHEELKKER-----
f17c8	254	-----VWFSGYCMFLISDVLESNOIFYFCQARVRYFFHILARKCL
M110-2	253	----DMNVVHMVLELAVGVLYTTELDIVA---AEMIDRVHYMGRHYG
TWIK-1	278	-----KMEYVKKDKDEDQVHLEHDOL-----SESSETDOAAGMKED
f17c8	295	LLRE-EDDGFOLETTVSLOHPLINSQCMPSL-----VLDCEKEELOND
M110-2	294	KAKELAGKMFOLAQSLNKKOGLVSGVGOLHALLAREFGMLVGREENDKIQ
TWIK-1	315	QKONEPFVAT-----QSSACVDGPANH-----
f17c8	338	EKLISSELEST-----
M110-2	342	EDGLIAFSPDVMGDFMDTLISIYRRSRRSAENSARNLFLS

FIG. 2B

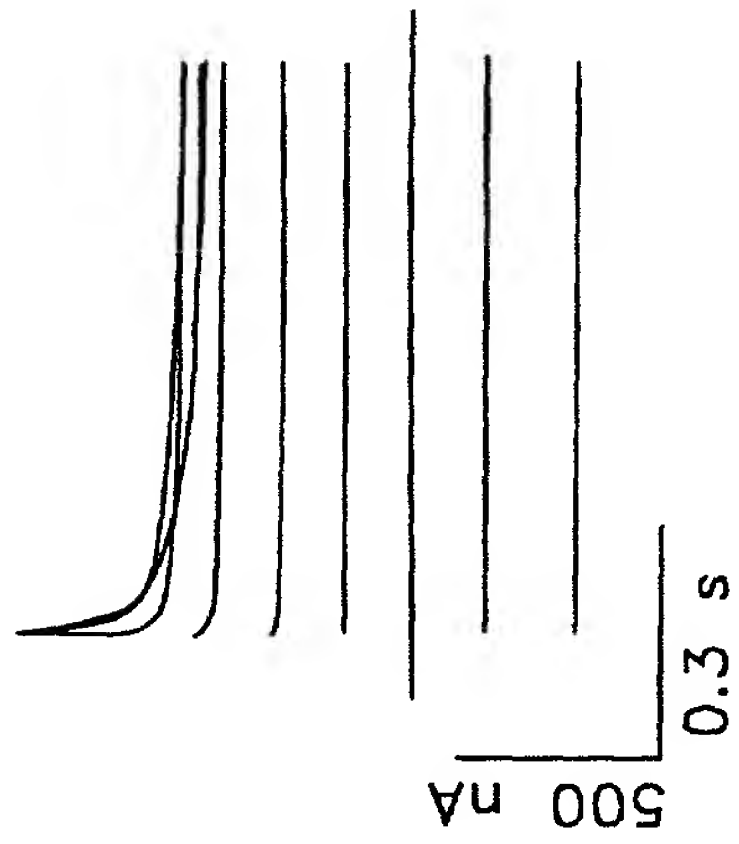


FIG. 3A

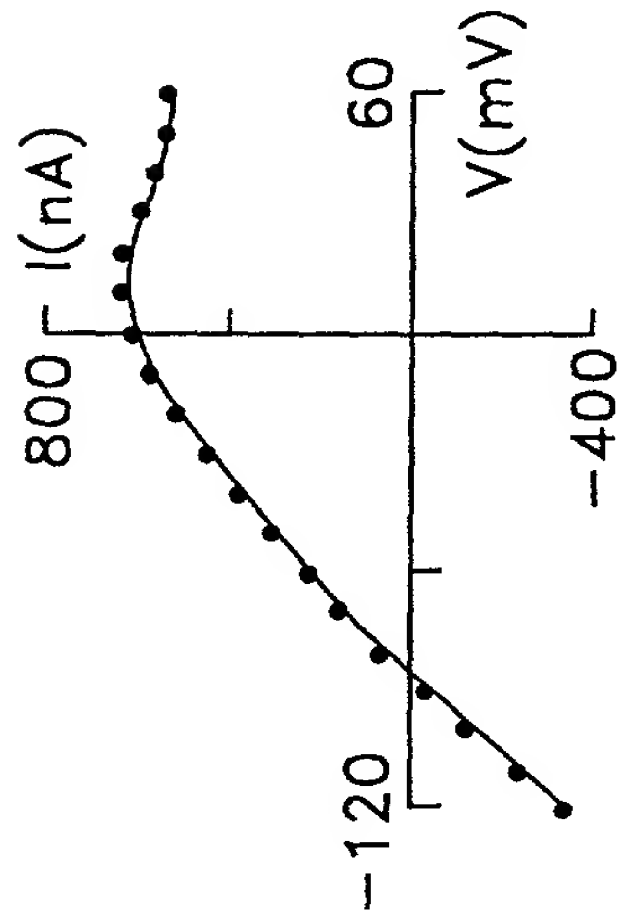


FIG. 3B

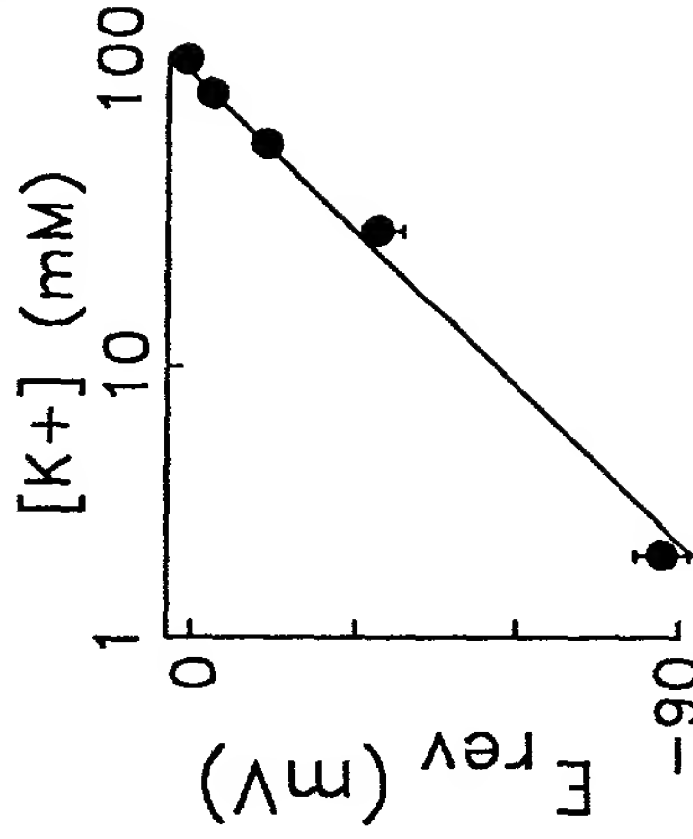


FIG. 3C

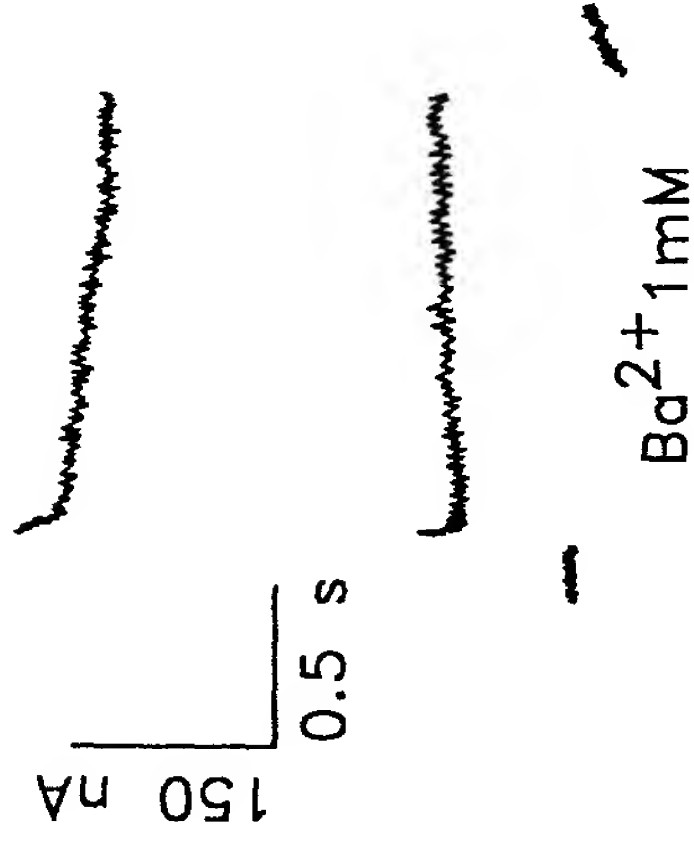


FIG. 3D

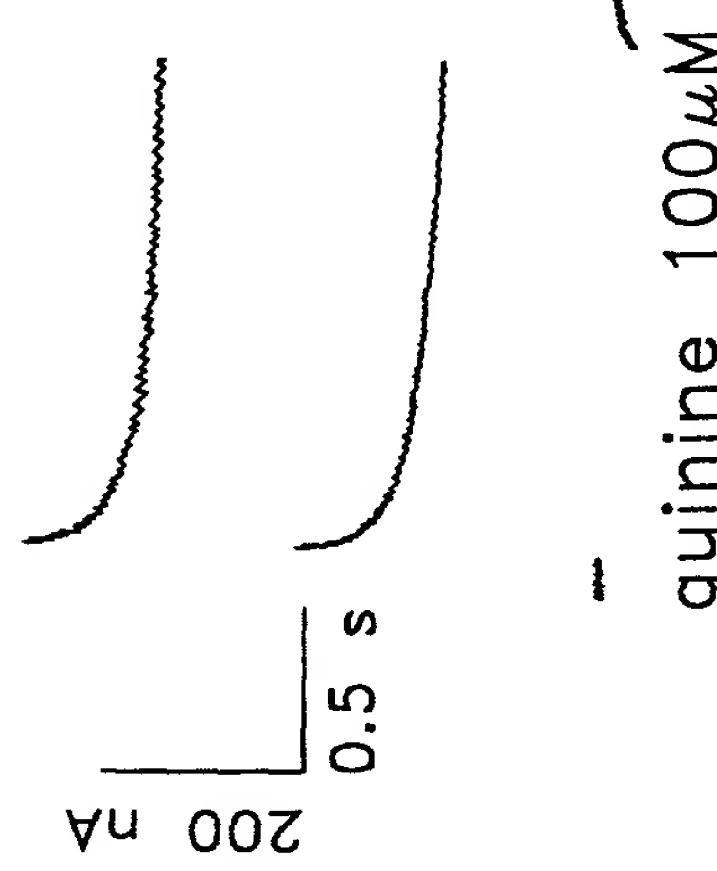


FIG. 3E

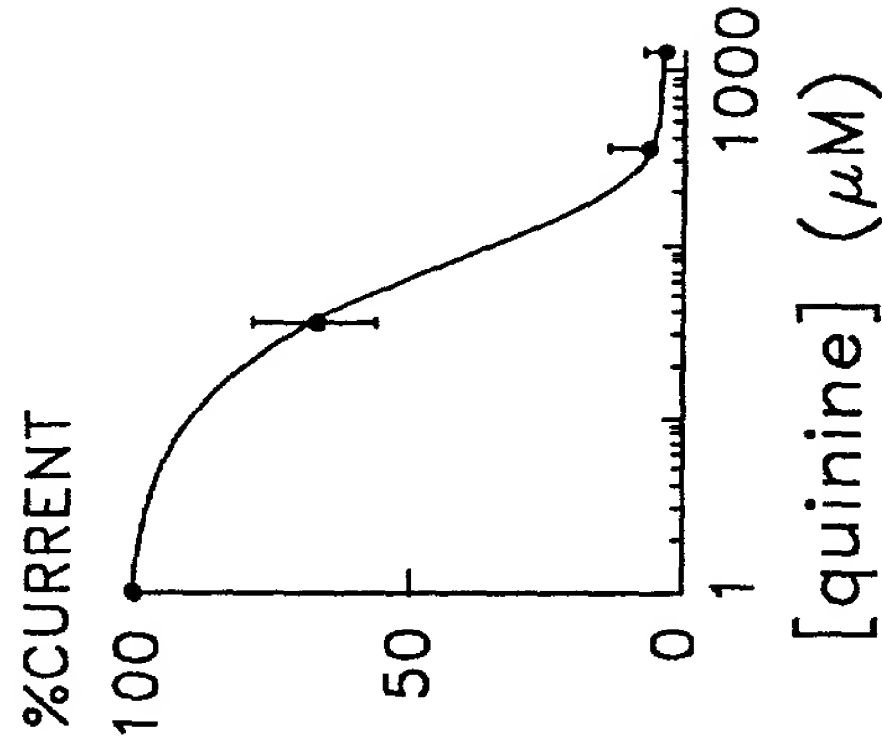


FIG. 3F

FIG. 4A

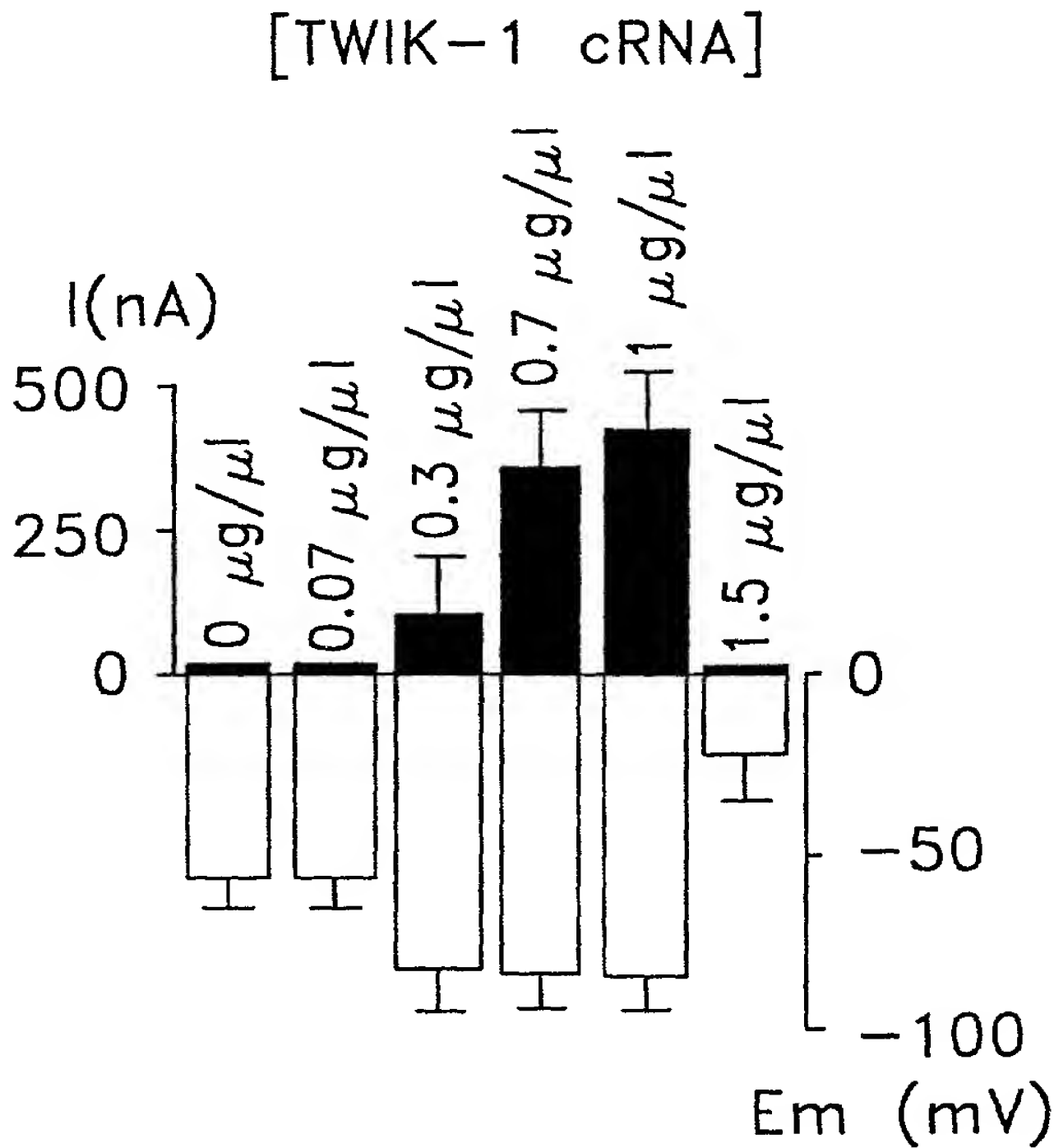


FIG. 4B

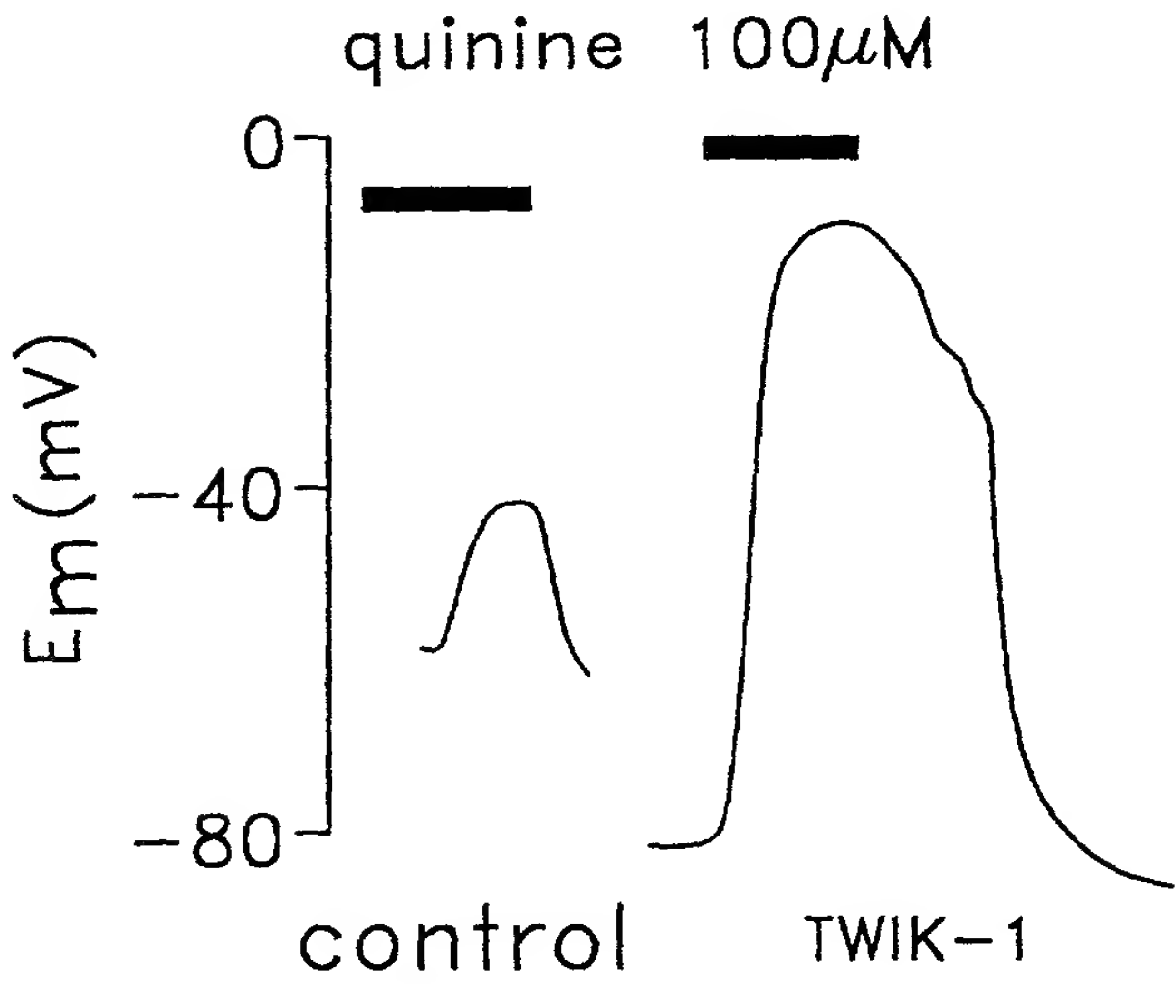
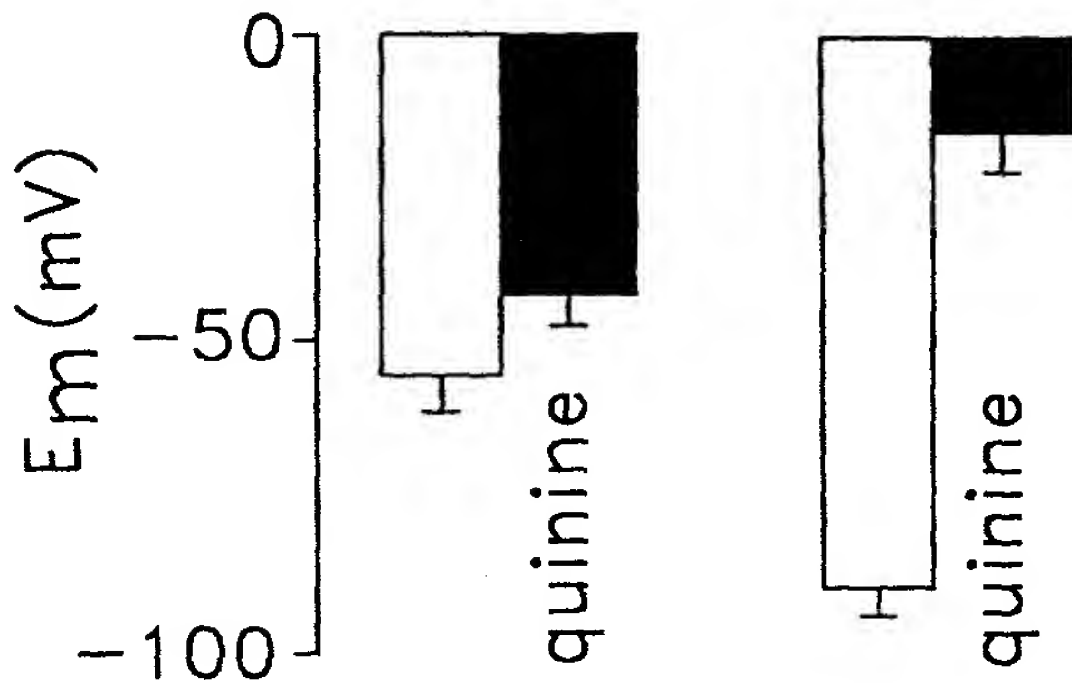


FIG. 4C



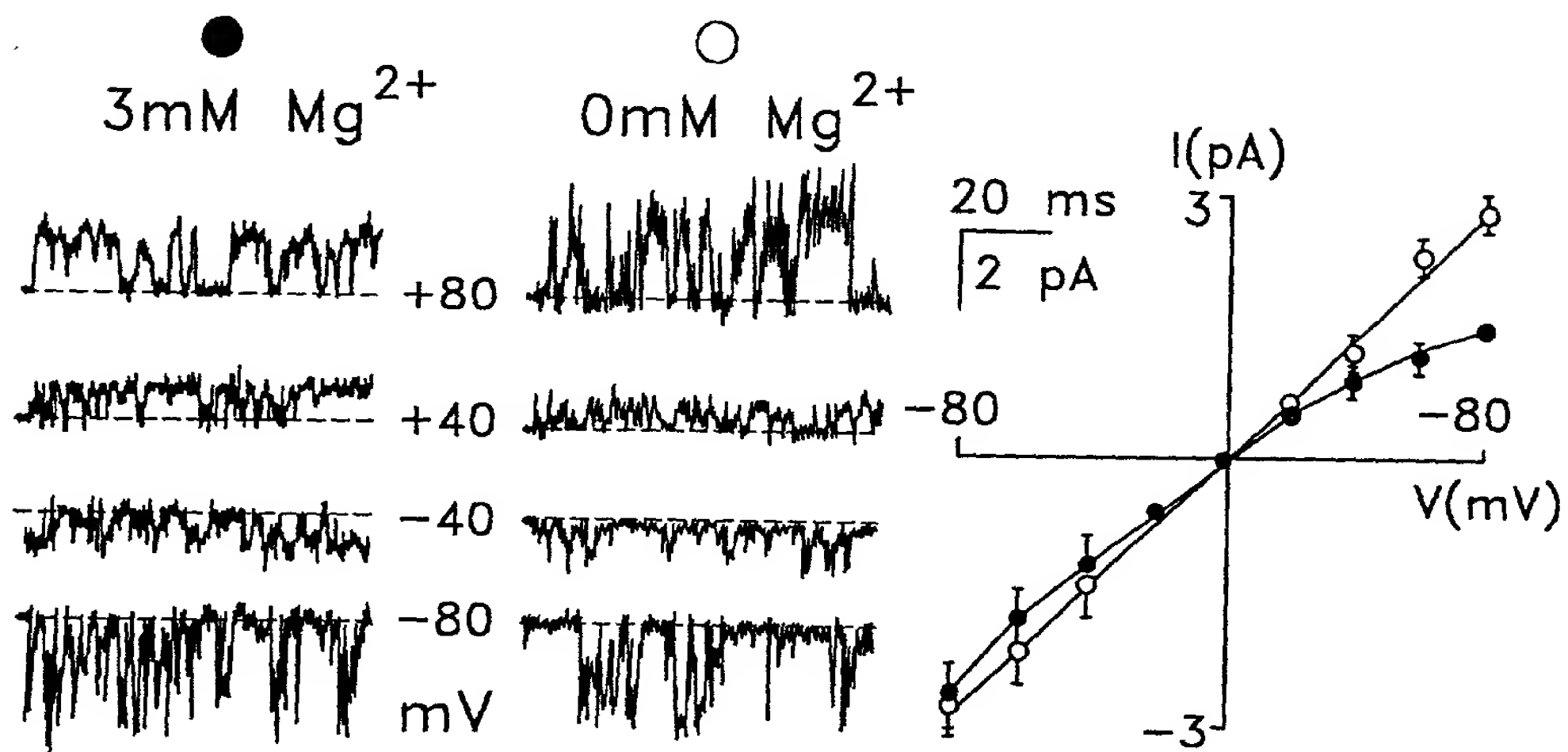


FIG. 5A

FIG. 5B

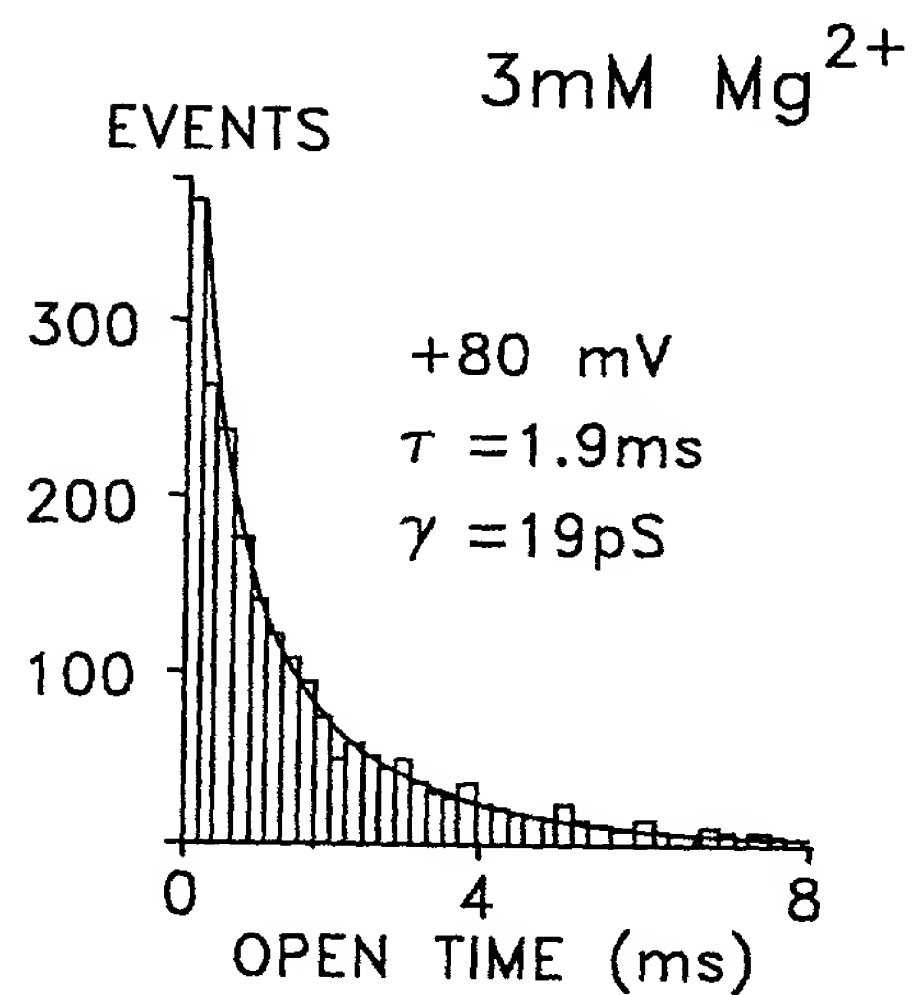


FIG. 5C

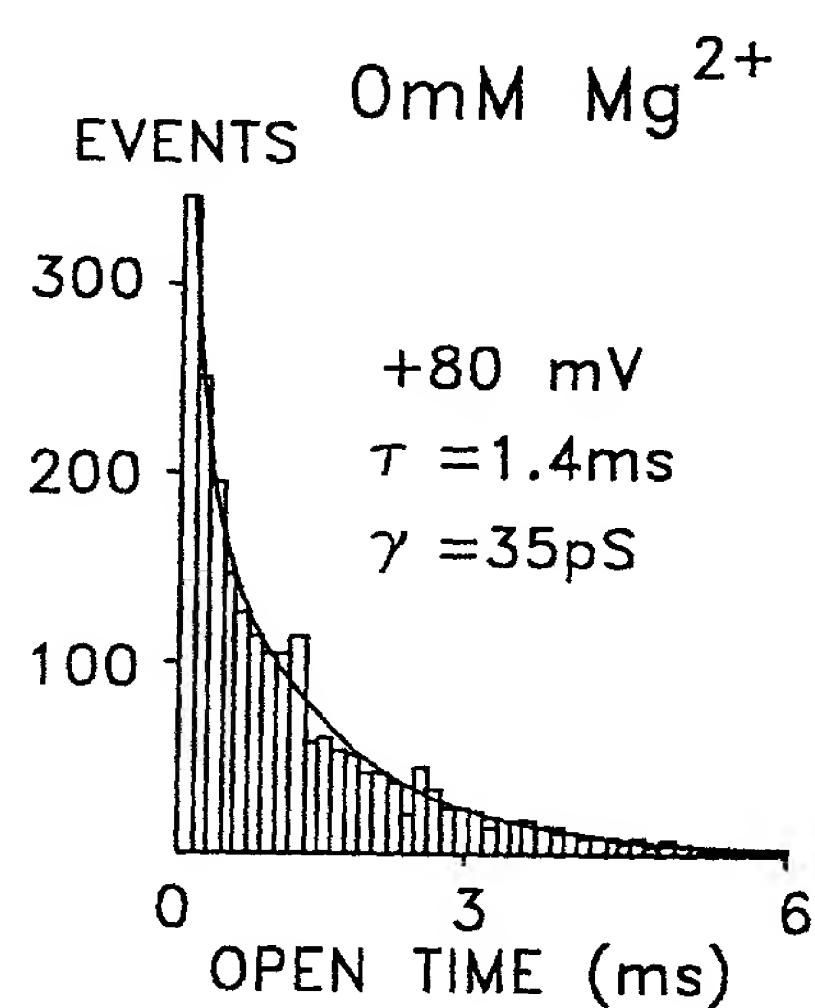
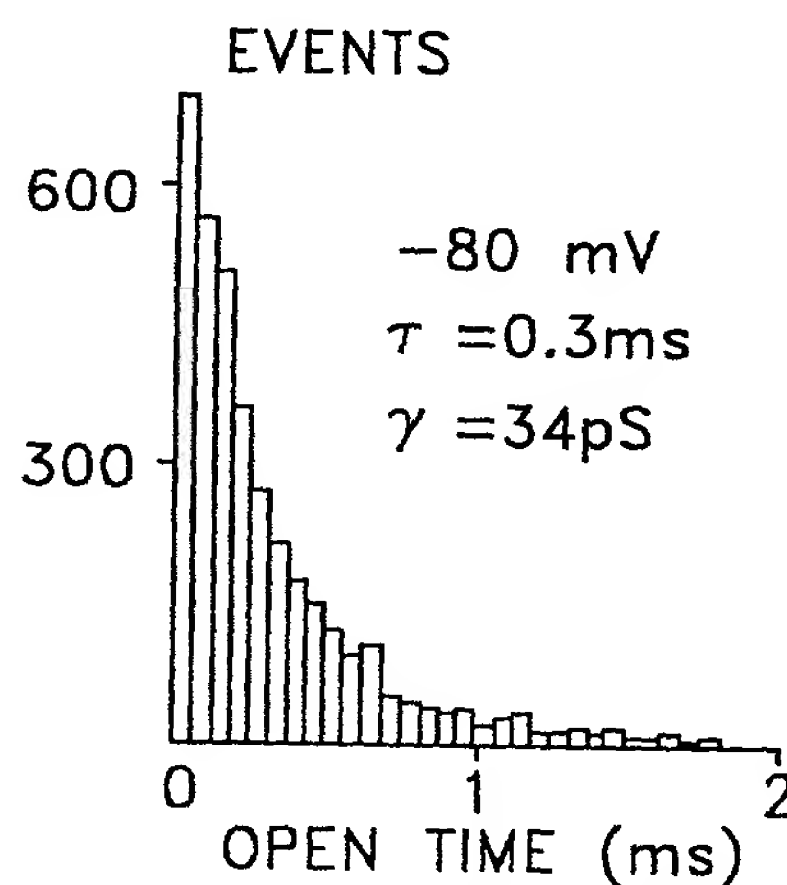
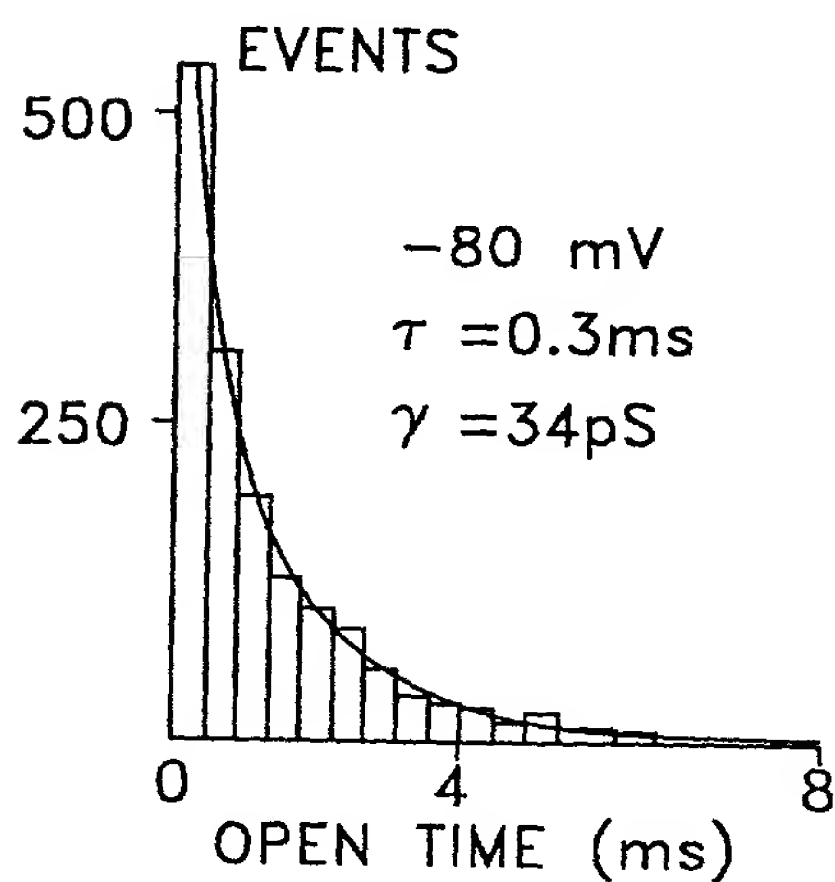


FIG. 5D



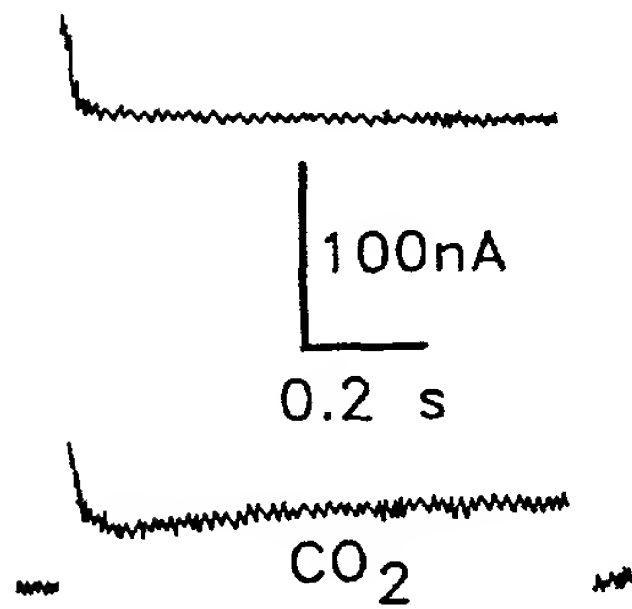


FIG. 6A

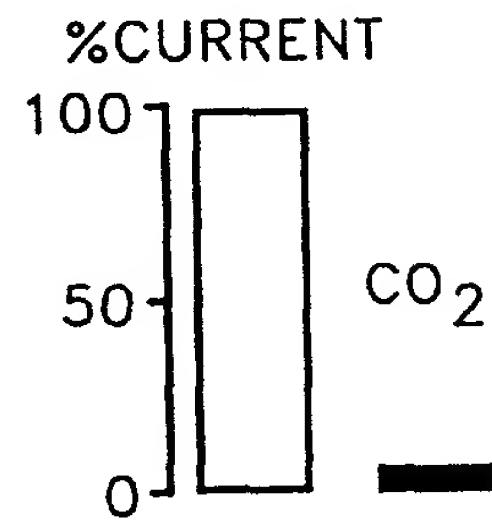


FIG. 6B

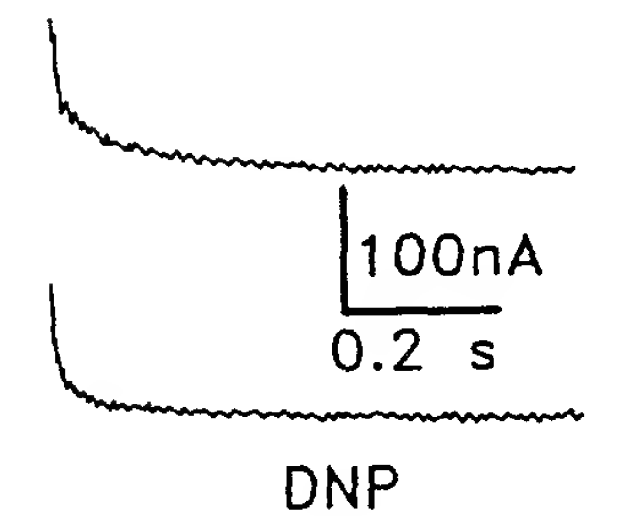


FIG. 6C

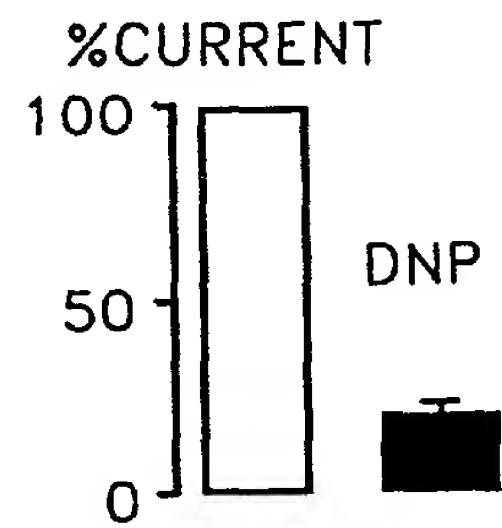


FIG. 6D

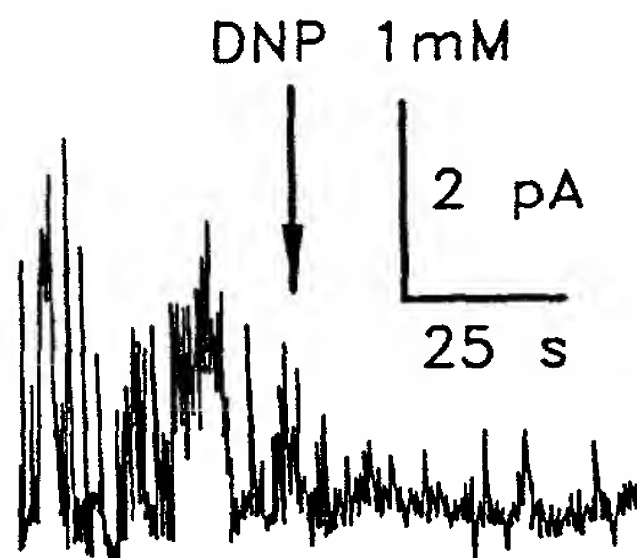


FIG. 6E

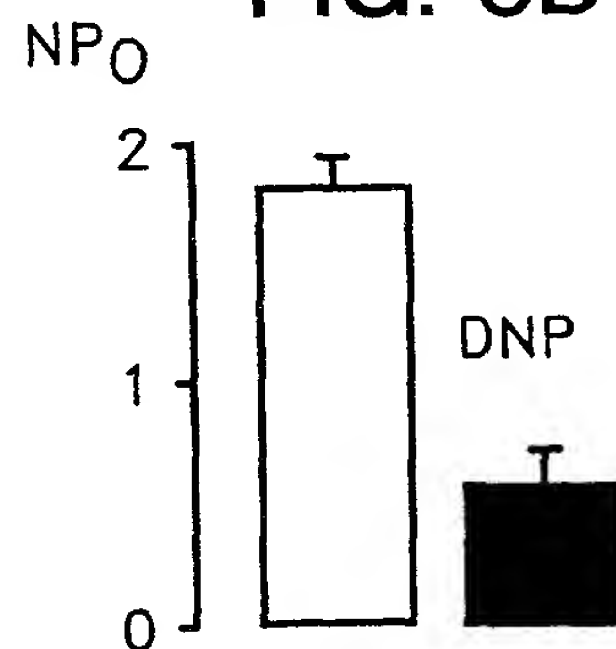


FIG. 6F

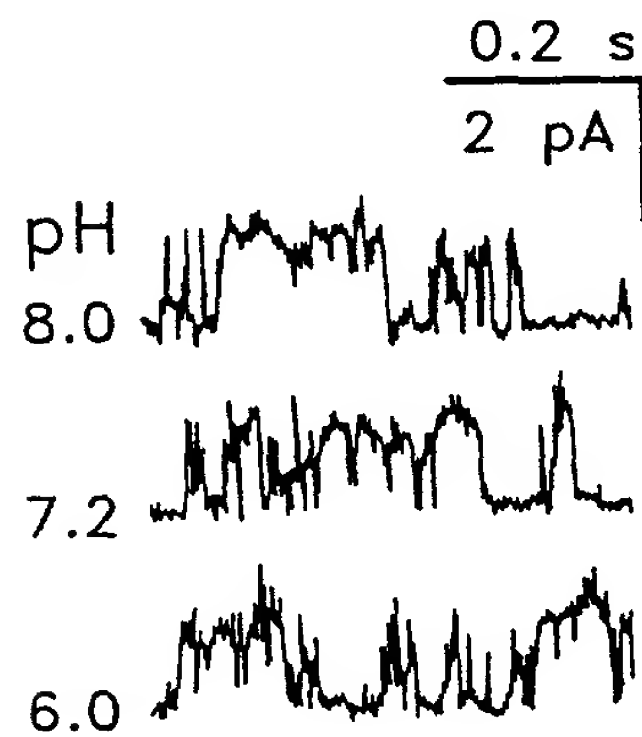


FIG. 6G

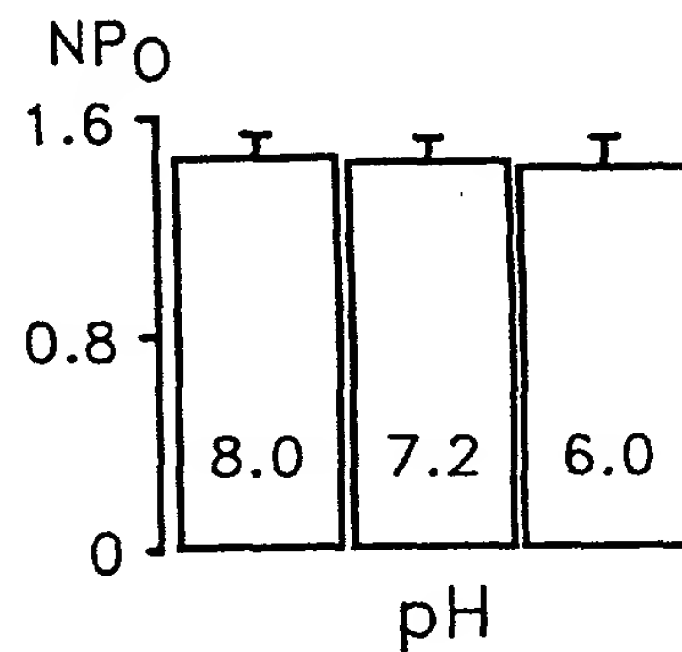


FIG. 6H

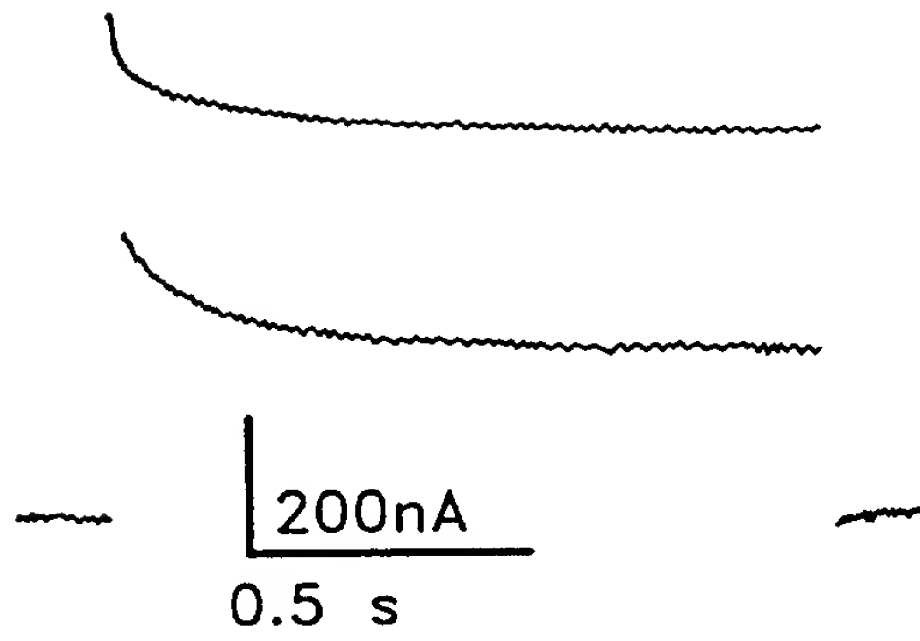


FIG. 7A

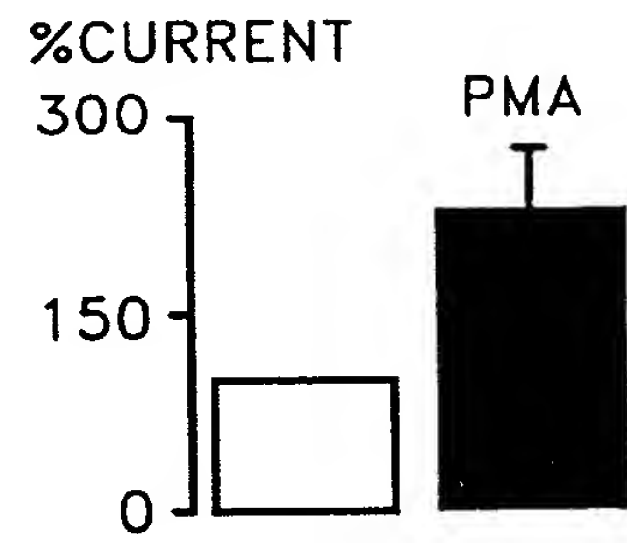


FIG. 7B

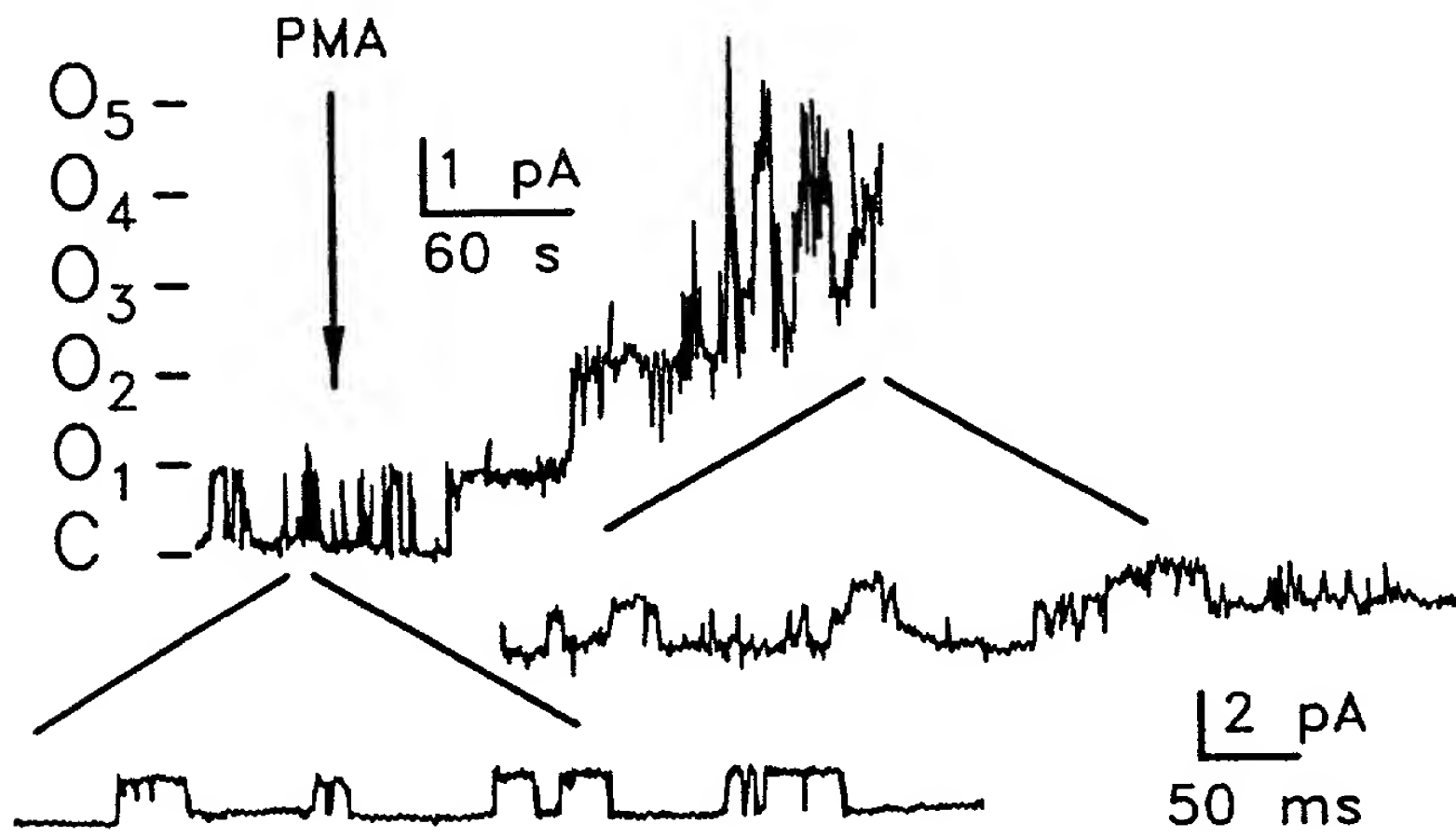


FIG. 7C

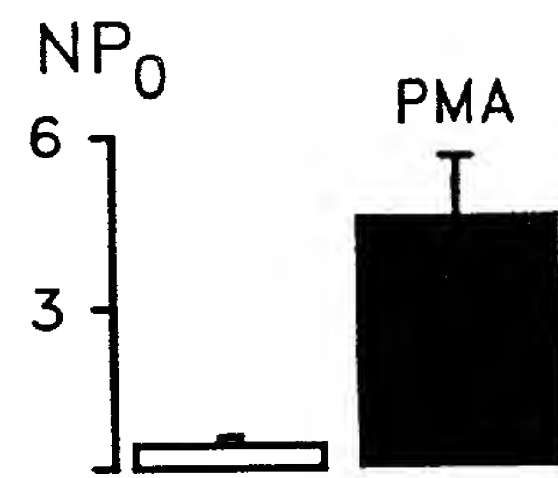


FIG. 7D

tgccctgcgcggatagcggcgagcgcagccatgccccagggccgctccg -77
 gggcagcagcagcggcggccggggccgatgcgcgggccggggcgccggggggccggcgggccggggcggggacg -1

ATG AAG CGG CAG AAC GTG CGC ACG CTG GCG CTC ATC GTG TGC ACC TTC ACC TAC CTG 57
 M K R Q N V R T L A L I V C T F T Y L 19
 E N V R T L A L I V C T F T Y L

CTG GTG GGC GCC GCG GTC TTC GAC GCG CTG GAG TCG GAG CCC GAG CTG ATC GAG CGG 114
 L V G A A V F D A L E S E P E L I E R 38
 L V G A A V F D A L E S E P E M I E R

CAG CGG CTG GAG CTG CGG CAG CAG GAG CTG CGG GCG CGC TAC AAC CTC AGC CAG GGC 171
 Q R L E L R Q Q E L R A R Y N L S Q G 57
 Q R L E L R Q L E L R A R Y N L S E G
 *

GGC TAC GAG GAG CTG GAG CGC GTC GTG CTG CGC CTC AAG CCG CAC AAG GCC GGC GTG 228
 G Y E E L E R V V L R L K P H K A G V 76
 G Y E E L E R V V L R L K P H K A G V

CAG TGG CGC TTC GCC GGC TCC TTC TAC TTC GCC ATC ACC GTC ATC ACC ACC ATC GGC 285
 Q W R F A G S F Y F A I T V I T T I G 95
 Q W R F A G S F Y F A I T V I T T I G

TAC GGG CAC GCG GCA CCC AGC ACG GAT GGC GGC AAG GTG TTC TGC ATG TTC TAC GCG 342
 Y G H A A P S T D G G K V F C M F Y A 114
 Y G H A A P S T D G G K V F C M F Y A

CTG CTG GGC ATC CCG CTC ACG CTC GTC ATG TTC CAG AGC CTG GGC GAG CGC ATC AAC 399
 L L G I P L T L V M F Q S L G E R I N 133
 L L G I P L T L I M F Q S L G E R I N

ACC TTG GTG AGG TAC CTG CTG CAC CGC GCC AAG AAG GGG CTG GGC ATG CGG CGC GCC 456
 T L V R Y L L H R A K K G L G M R R A 152
 T E V R Y L L H R A K R G L G M R H A

GAC GTG TCC ATG GCC AAC ATG GTG CTC ATC GGC TTC TTC TCG TGC ATC AGC ACG CTG 513
 D V S M A N M V L I G F F S C I S T L 171
 E V S M A N M V L I G F V S C I S T L

TGC ATC GGC GCC GCC GCC TTC TCC CAC TAC GAG CAC TGG ACC TTC TTC CAG GCC TAC 570
 C I G A A A F S H Y E H W T F F Q A Y 190
 C I G A A A F S Y Y E R W T F F Q A Y

TAC TAC TGC TTC ATC ACC CTC ACC ACC ATC GGC TTC GGC GAC TAC GTG GCG CTG CAG 627
 Y Y C F I T L T T I G F G D Y V A L Q 209
 Y Y C F I T L T T I G F G D Y V A L Q

AAG GAC CAG GCC CTG CAG ACG CAG CCG CAG TAC GTG GCC TTC AGC TTC GTC TAC ATC 684
 K D Q A L Q T Q P Q Y V A F S F V Y I 228
 K D Q A L Q T Q P Q Y V A F S F V Y I

CTT ACG GGC CTC ACG GTC ATC GGC GCC TTC CTC AAC CTC GTG GTG CTG CGC TTC ATG 741
 L T G L T V I G A F L N L V V L R F M 247
 L T G L T V I G A F L N L V V L R F M

FIG. 8A

ACC ATG AAC GCC GAG GAC GAG AAG CGC GAC GCC GAG CAC CGC GCG CTG CTC ACG CGC 798
 T M N A E D E K R D A E H R A L L T R 266
 T M N A E D E K R D A E H R A L L T H

AAC GGG CAG GCG GGC GGC GGC GGA GGG GGT GGC AGC GCG CAC ACT ACG GAC ACC GCC 855
 N G Q A G G G G G G S A H T T D T A 285
 N G Q A V G L G G L S C L S G S L G D

TCA TCC ACG GCG GCA GCG GGC GGC GGC GGC TTC CGC AAC GTC TAC GCG GAG GTG CTG 912
 S S T A A A G G G G F R N V Y A E V L 304
VRPRDPV TC AA A A G GVGVGVGGS G F R N V Y A E V L

CAC TTC CAG TCC ATG TGC TCG TGC CTG TGG TAC AAG AGC CGC GAG AAG CTG CAG TAC 969
 H F Q S M C S C L W Y K S R E K L Q Y 323
 H F Q S M C S C L W Y K S R E K L Q Y ●

TCC ATC CCC ATG ATC ATC CCG CGG GAC CTC TCC ACG TCC GAC ACG TGC GTG GAG CAG 1026
 S I P M I I P R D L S T S D T C V E Q 342
 S I P M I I P R D L S T S D T C V E H

AGC CAC TCG TCG CCG GGA GGG GGC GGC CGC TAC AGC GAC ACG CCC TCG CGA CGC TGC 1083
 S H S S P G G G G R Y S D T P S R R C 361
 S H S S P G G G G R Y S D T P S H P C ■

CTG TGC AGC GGG GCG CCA CGC TCC GCC ATC AGC TCG GTG TCC ACG GGT CTG CAC AGC 1140
 L C S G A P R S A I S S V S T G L H S 380
 L C S G T Q R S A I S S V S T G L H S

CTG TCC ACC TTC CGC GGC CTC ATG AAG CGC AGG AGC TCC GTG TGA ctgccccgagggacc 1200
 L S T F R G L M K R R S S V * 395
 L A A F R G L M K R R S S V ▲ ▲

tggagcacctgggggagcgggcgggggacccctgctgggagggcaggagactgcccctgctgccttctgcccagtg 1276
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 ggaggccgggctctgaggacccctggggcccccatcgaggccctgcaaattccgagaaatgtgaaacttggtgggg 1428
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 gctaggtctccaccttcccttggttccaaaagccagggtgtctatgtccaagtcacccctactcagccccactcc 1656
 ccttctctcatccccagctgtgtctcccaacctcccttcgtgtttgttttgcatggctttgcagttatggagaaagt 1732
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 gcgagctgggaggcaggaggcagcgccctgtcagtcctgcagaatggctcgactggaggttcaagctaactggcctc 1884
 cagccacattctcatagcaggtaggacttcagccttccagacactgccccttagaatctggaacagaagacttcaga 1960
 ctccaccataattgctgataattacccactcttaaatttgtcagtgatatttttagcctctgaaaactctatgctggc 2036
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 ctccagcctgggtgacagggcaagacctgtctcaaaaaaaaaaaaaaaaaa 2465

FIG. 8B

	1	-----MLQSLAGSSCVR-----LVERHRS-----
	1	MAAPDLDLPKSAQAQNSKPRLSFSSKPTVLAASRVESDSA
	1	-----MKR-----Q-NVR-----
		M1
TWIK-1	20	-----AWCFG-FLVLGYLLYLVEGAVVFSSVELPYEDLL
TREK-1	39	INVMKVKTVSTIFLVVLYLIIGAAVFKALEQPOEISO
TASK	8	-----TLALLVCTFTYLLVGAAVFDALESEPELIE
		P1
TWIK-1	53	RQELRKLKRRFLEEHECLSEQOLEQFLGRVLEASNYGV
TREK-1	77	RTTIVIQKQTFIAQHACVNSTELDELQQIVAAINAGI
TASK	38	RQRLRLRQQLRARNLSQGG-YEELERVVLRLKPKHA
		P1
TWIK-1	91	SVLSNASG-NWNWDFTSALFFASTVLSSTGYGHTVPLS
TREK-1	115	IPLGNSSNQVSHWDLGSSFFFACTVITTIGEGNISPRT
TASK	75	G-----VQ-NREAGSEYFALTIVITTIGYGHAA PST
		M2
TWIK-1	128	DGGKAFCCIYSVIGIPITLLFLTAVVORI TVHVTR--R
TREK-1	153	EGGKIFCCIYALLGIPLFGLLAGVGDQLGTIFGKGIA
TASK	104	DGGKVFCEMFYALLGIPLTLVMFOSLGERINTLVRY---
		M3
TWIK-1	164	PVLYFHIRNGFSKQVVAIVHAVLLGFVTVSCFFRIPAA
TREK-1	191	KVEDTFIKVNVSOTKIRIISTTIFILFECVLFVALPAV
TASK	139	LHRAKKGLGMRRADVSMANMVLIGFFSCISTLCIGAA
		P2
TWIK-1	202	VFSVLEDDVNFLESFYFCFISLSTIGLGDYVPGF-GYN
TREK-1	229	IFKHIEG-NSALDAIFYFVITLTTIGFGDYVAG-GSD
TASK	177	AFSHYEH-WTFEQAAYYCFITLTTIGFGDYVALQKQDA
		M4
TWIK-1	239	OKFRELYKIGITCYLLGLIAMLVVLBTFCGLHELKKF
TREK-1	264	IEYLDIFYKPVVWFILVGLAYFAAVLSMIGDWLRVISK
TASK	214	LQTQPQYVAESEVYILTGLTVIGAFELNLVVLRFMTMNA
		P2
TWIK-1	277	RKMFYVKKDKD-----
TREK-1	302	KTKEEVGEFR-----
TASK	252	EDEKRDAEHRALLTRNGQAGGGGGGSAHTTDTASSTA
		P2
TWIK-1	288	-----EDQVHIIEHDQLSFSSITDOAAGMK--
TREK-1	312	-----AHAAEWNTANVTAEFKETRRLSVEI--
TASK	290	AAGGGGFRNVYA EVLHFEQSMCSCLWYKSREKLQYSIPM
		P2
TWIK-1	313	---EDQKQNEPFVATQSSACVDGPANH-----
TREK-1	337	---YDKFORATSVKRLSAELAGNHNQELTPCMRTCL-
TASK	328	IIPRDLSTSDTCVEQSHSSPGGGGRYS DTPSRRCLCSG
		P2
TWIK-1	337	-----
TREK-1	371	-----
TASK	366	APRSAISSVSTGLHSLSTFRGLMKRRSSV

FIG. 9A

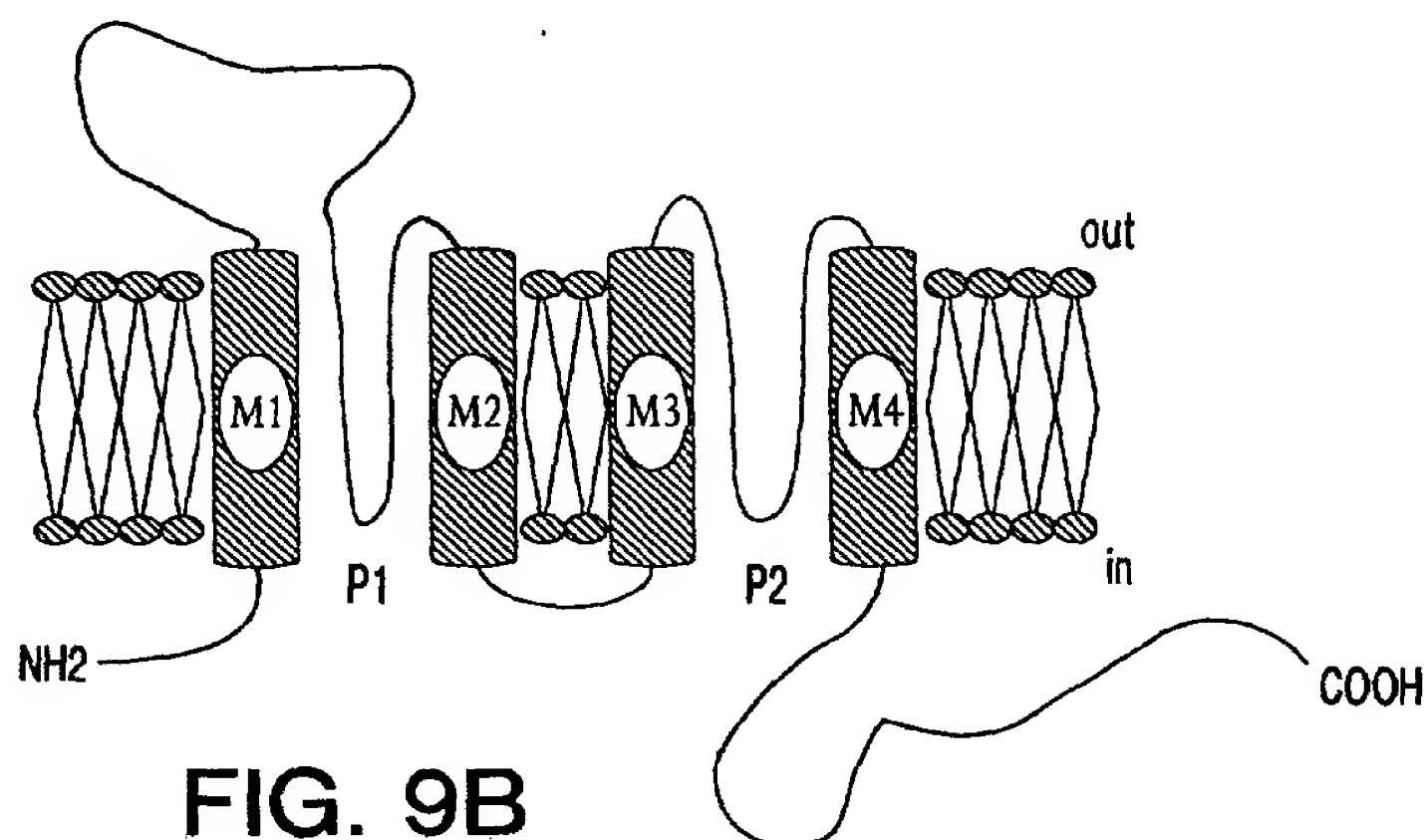


FIG. 9B

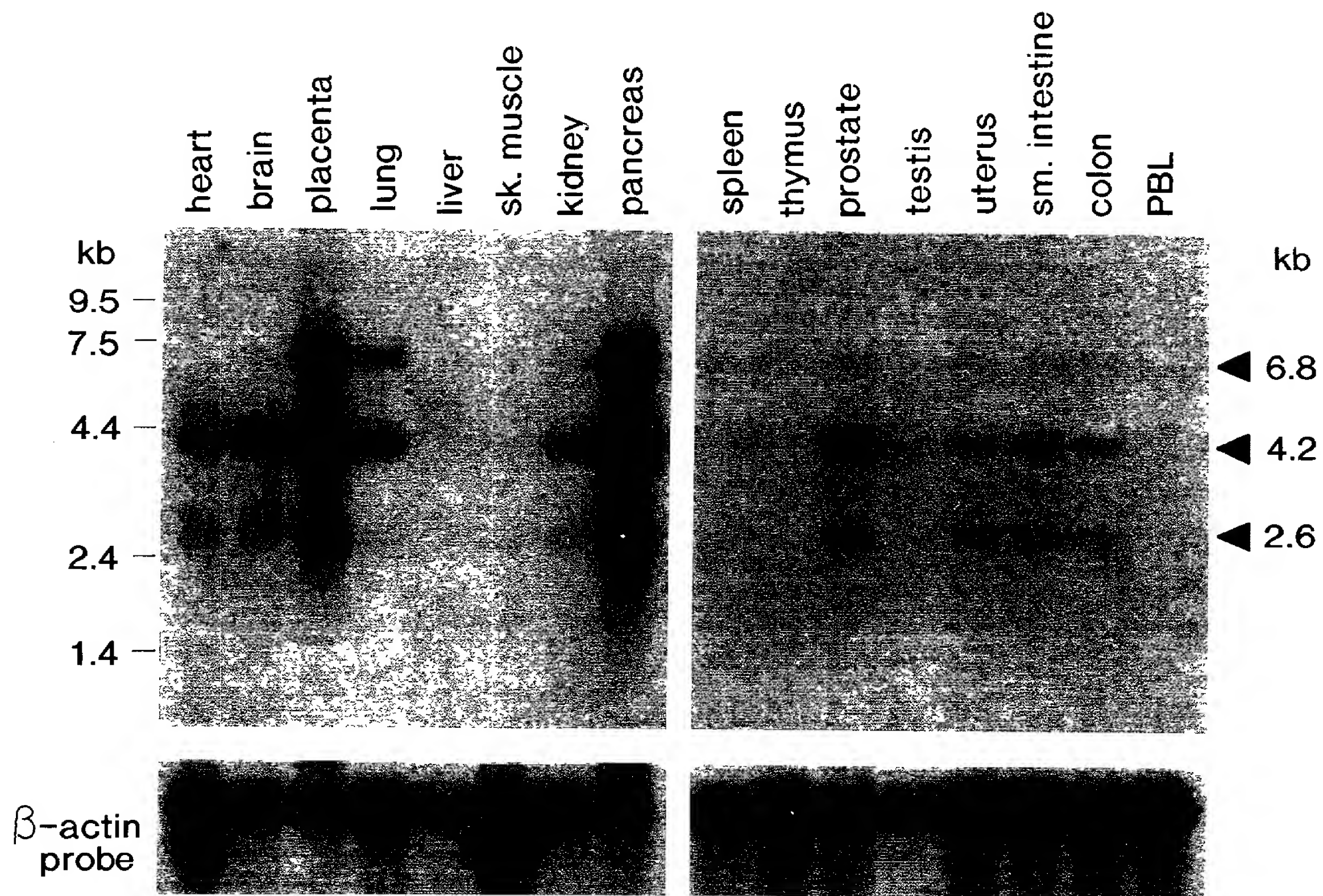


FIG. 10

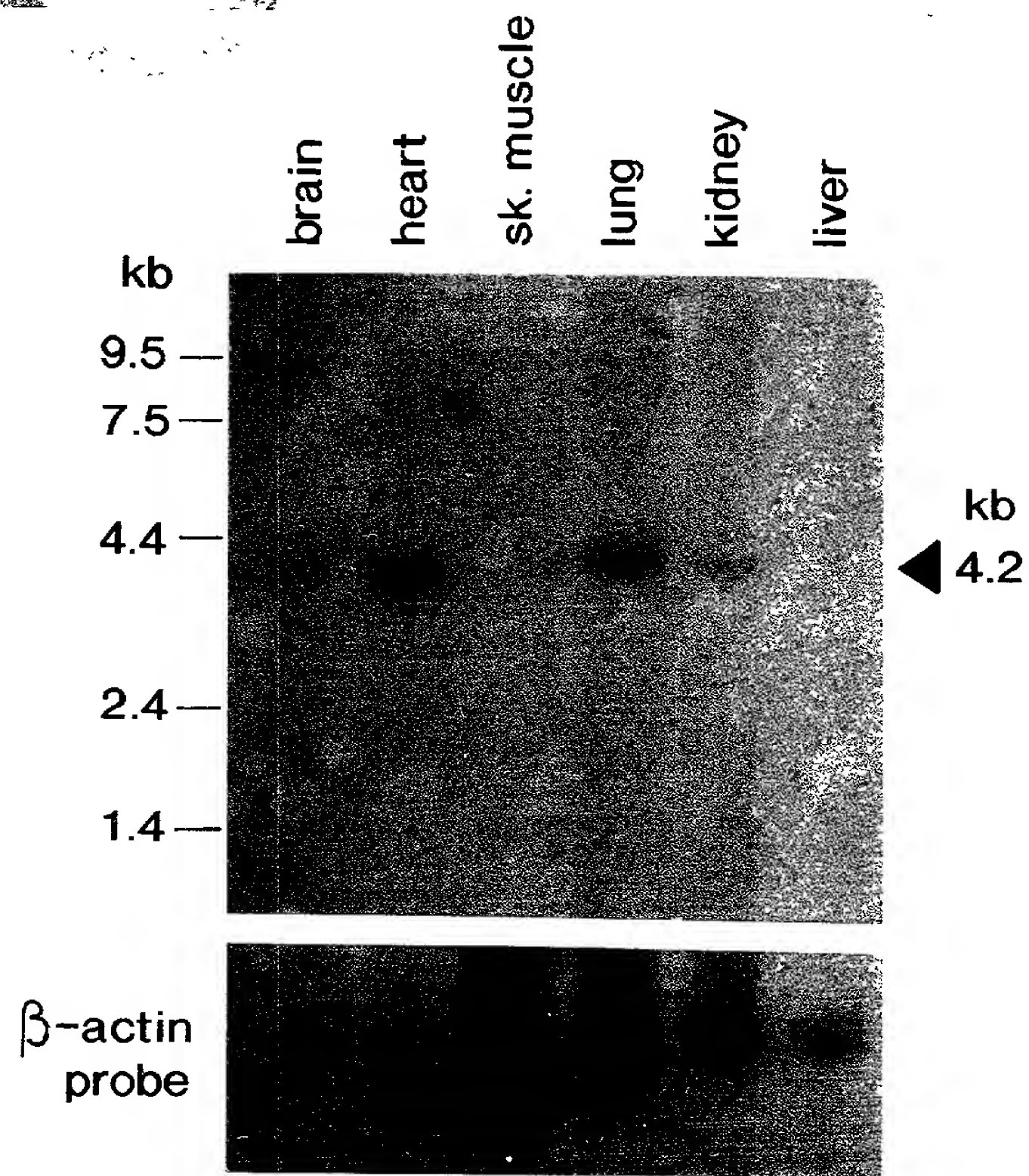


FIG. 11A

FIG. 11B

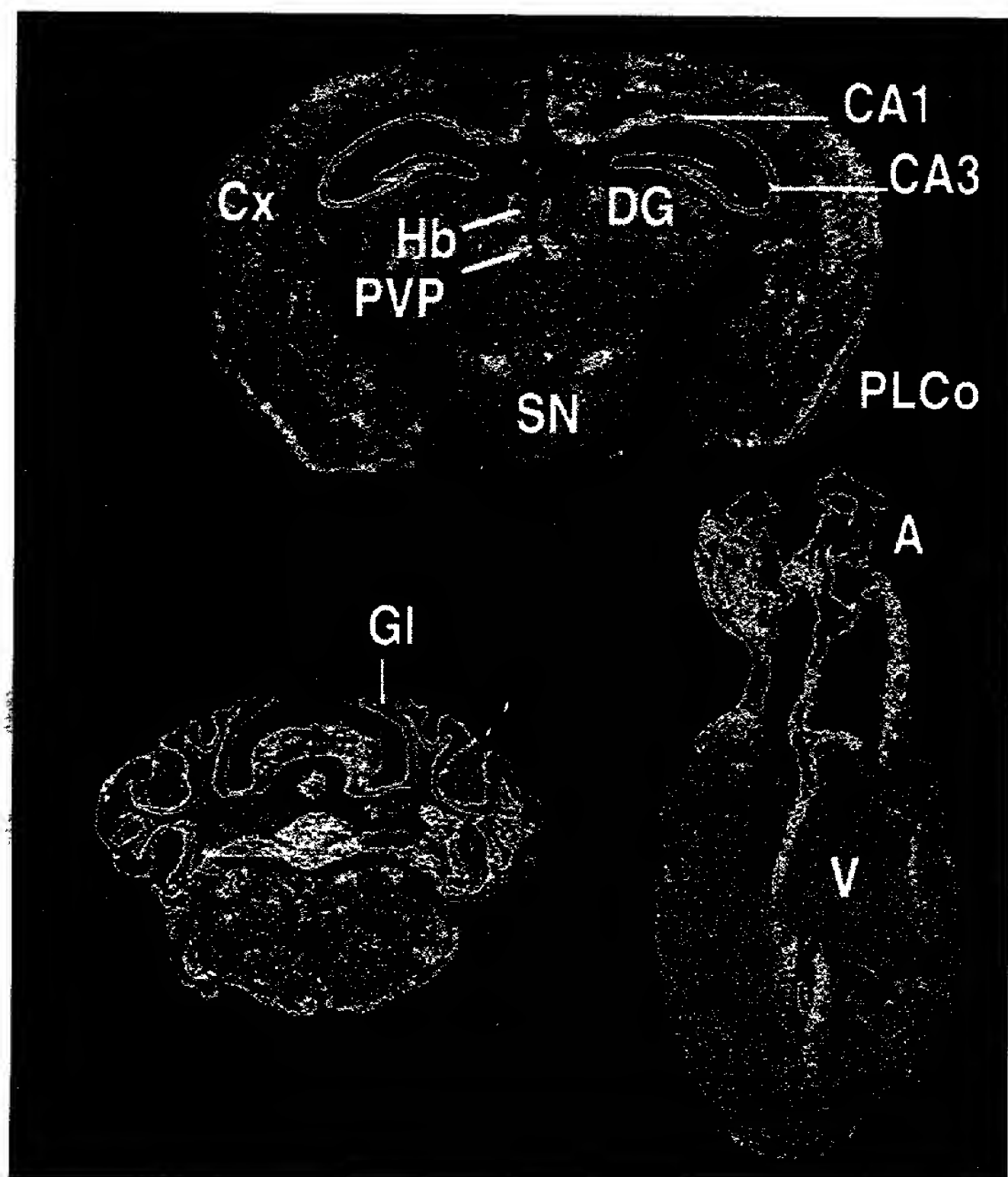


FIG. 11C

FIG. 11D

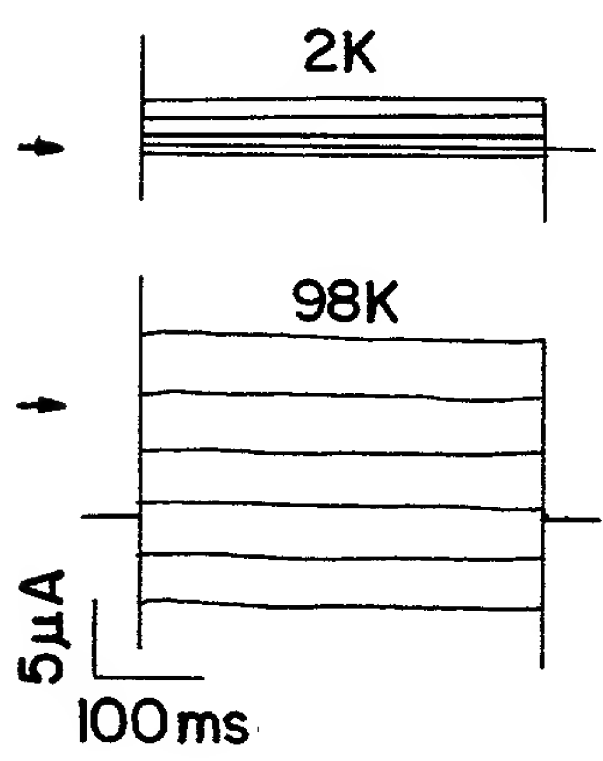


FIG. 12A

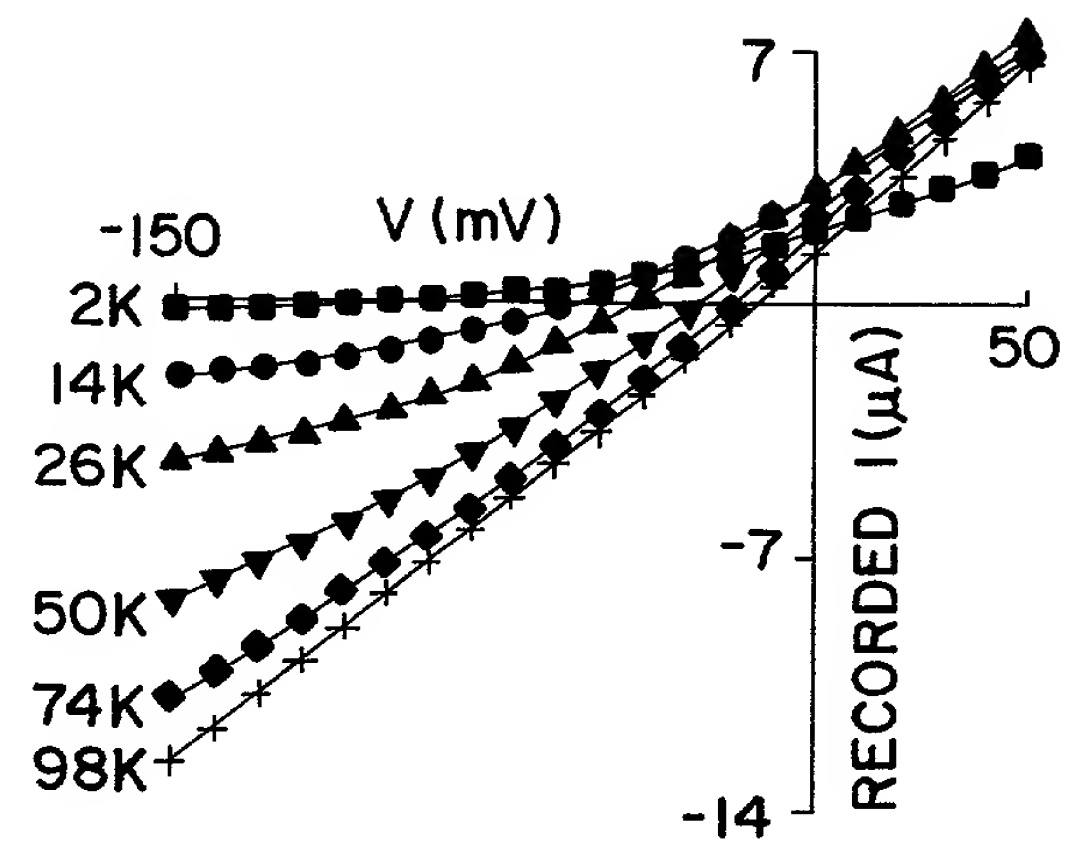


FIG. 12B

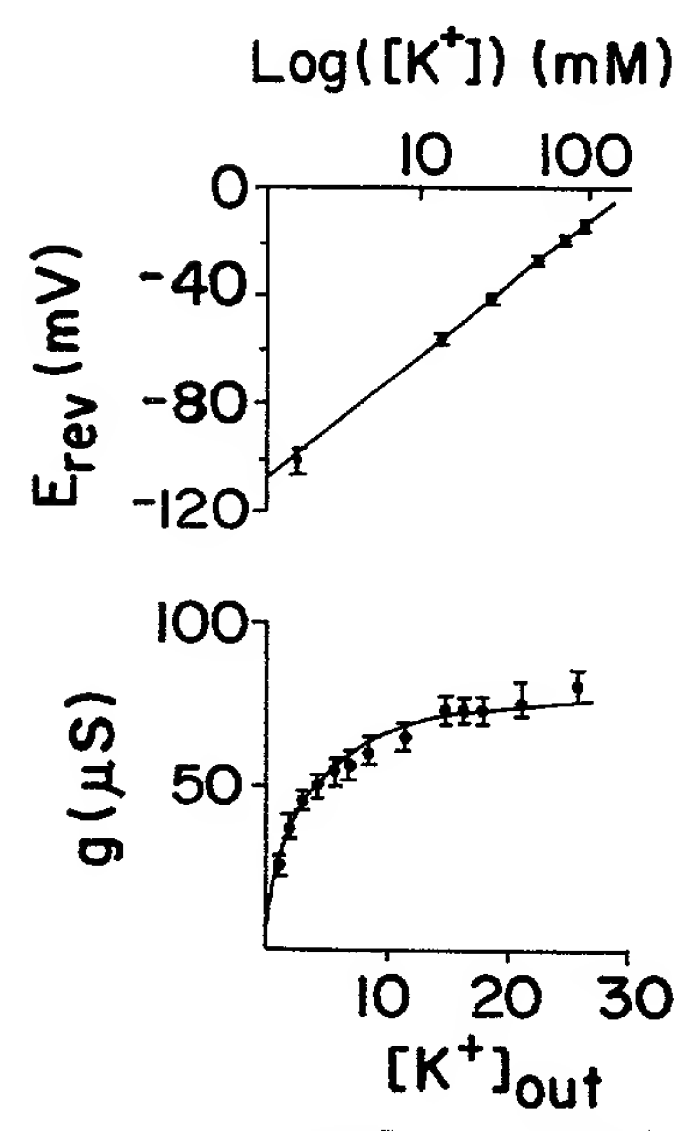


FIG. 12C

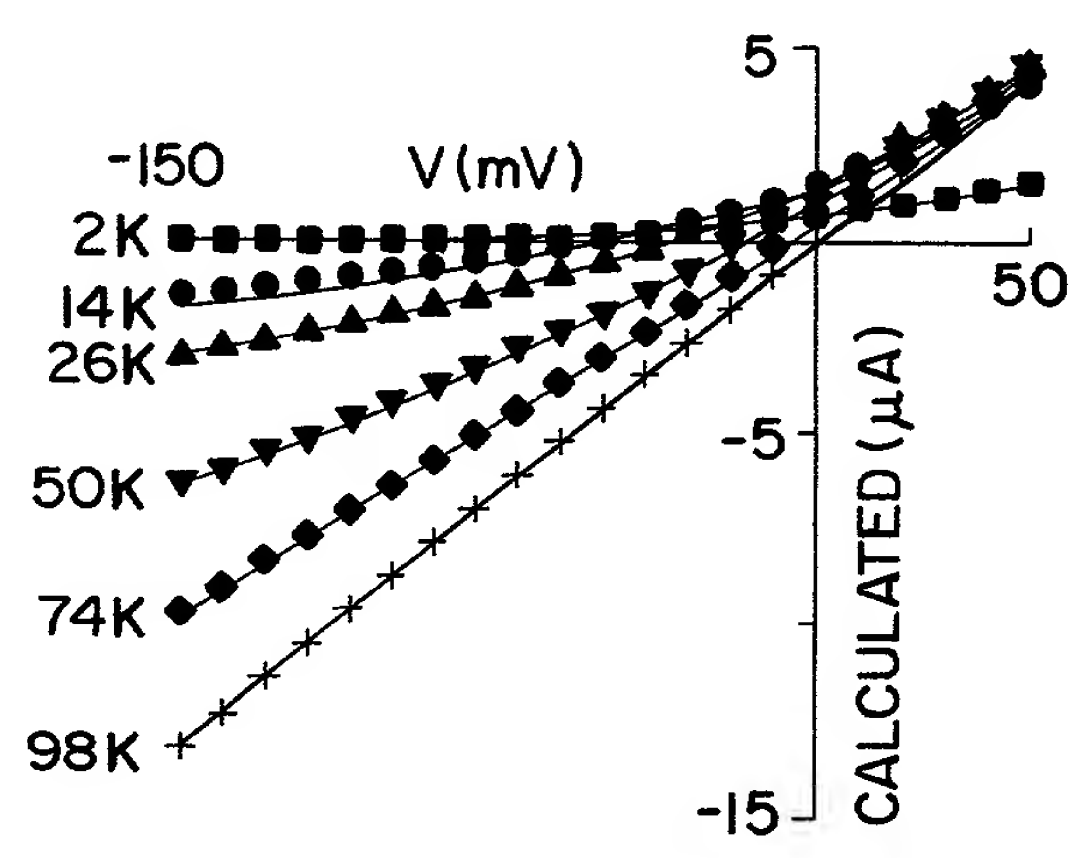


FIG. 12D

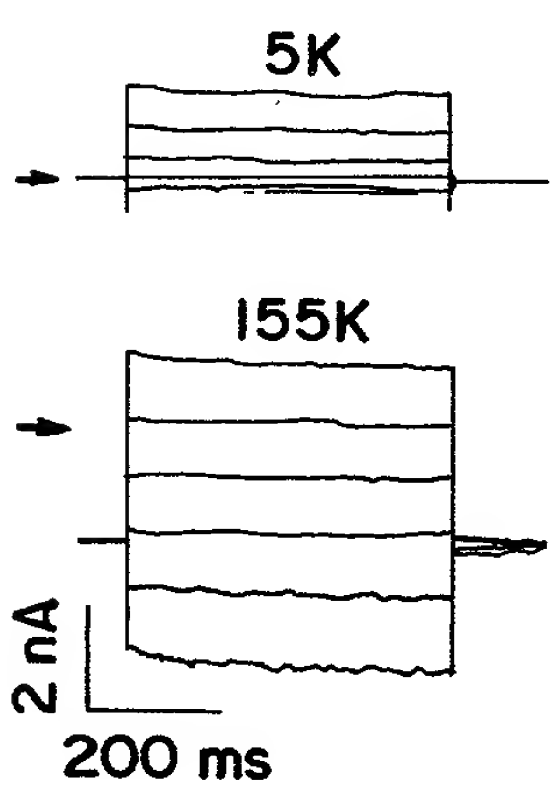


FIG. 12E

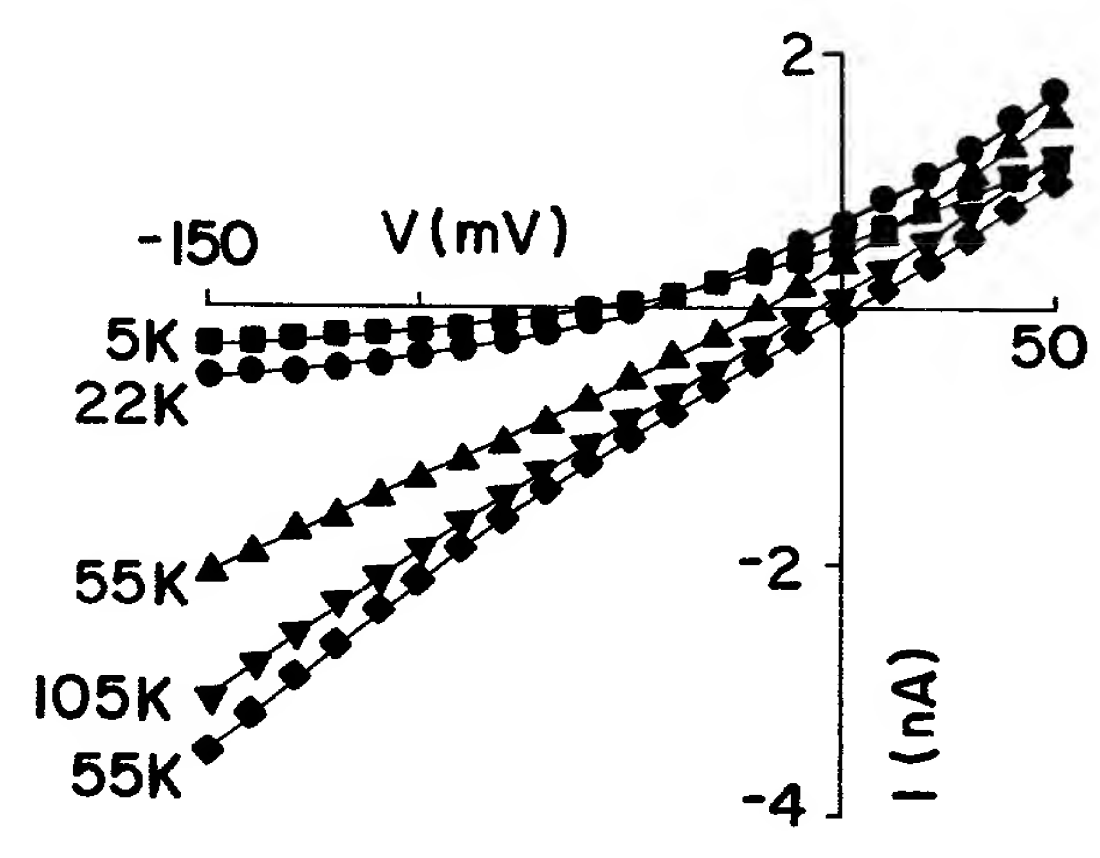


FIG. 12F

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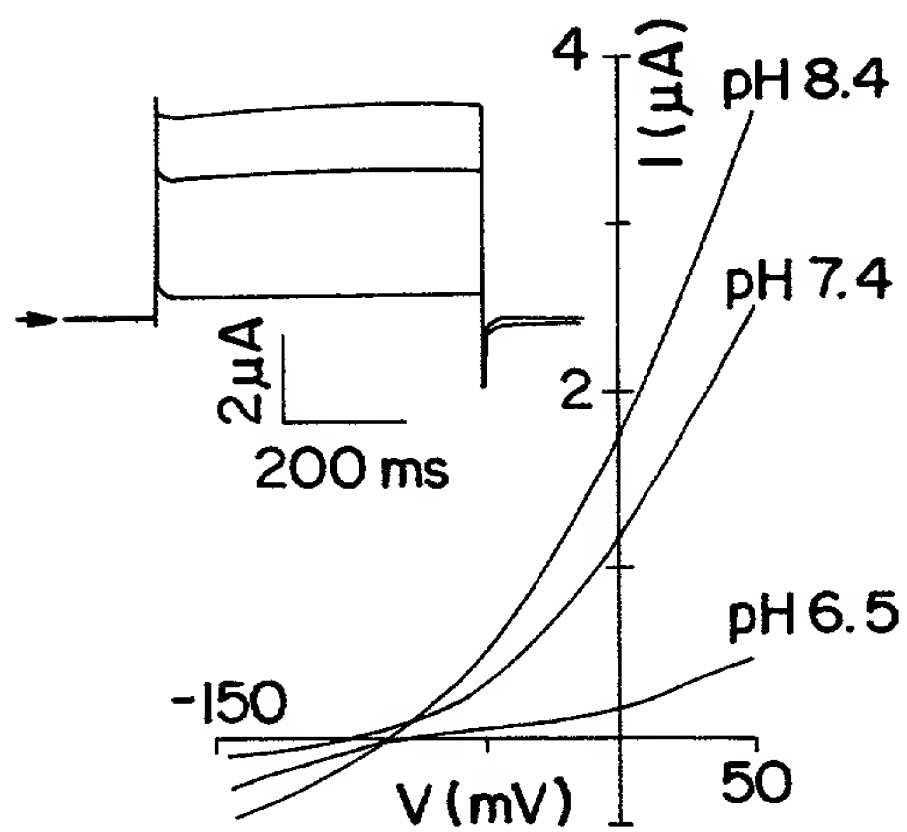


FIG. 13A

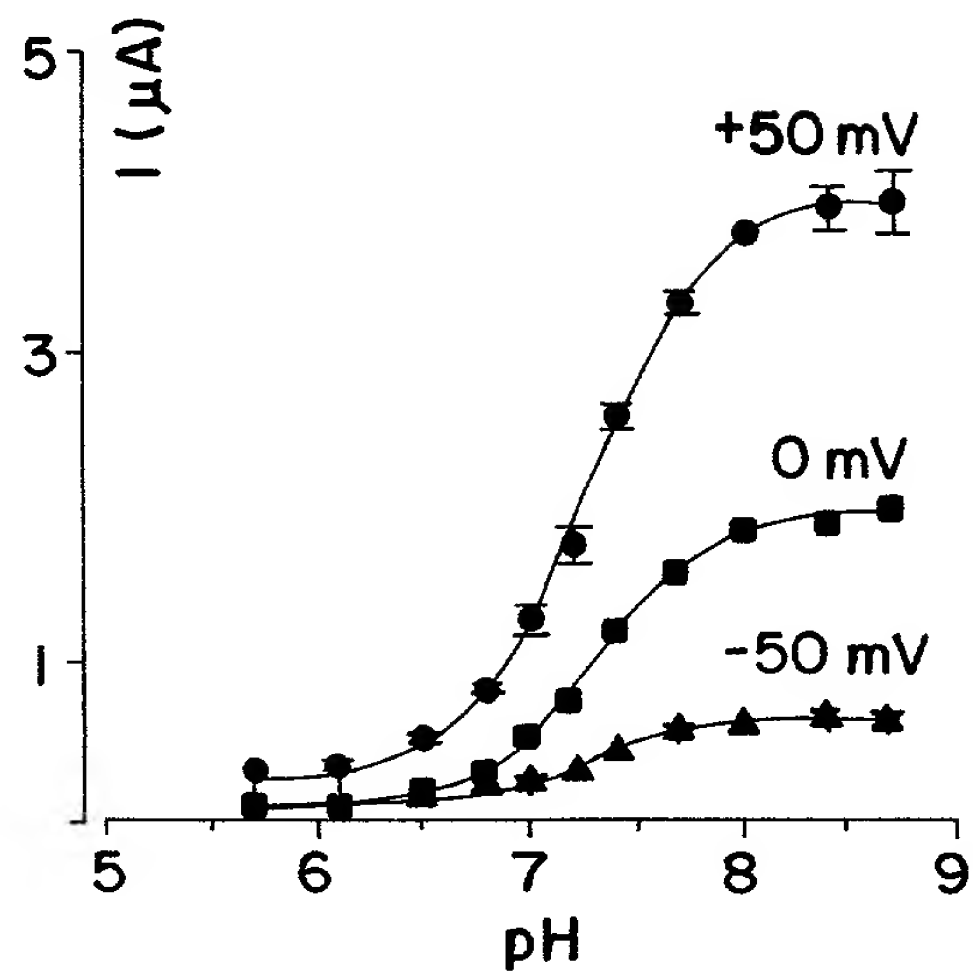


FIG. 13B

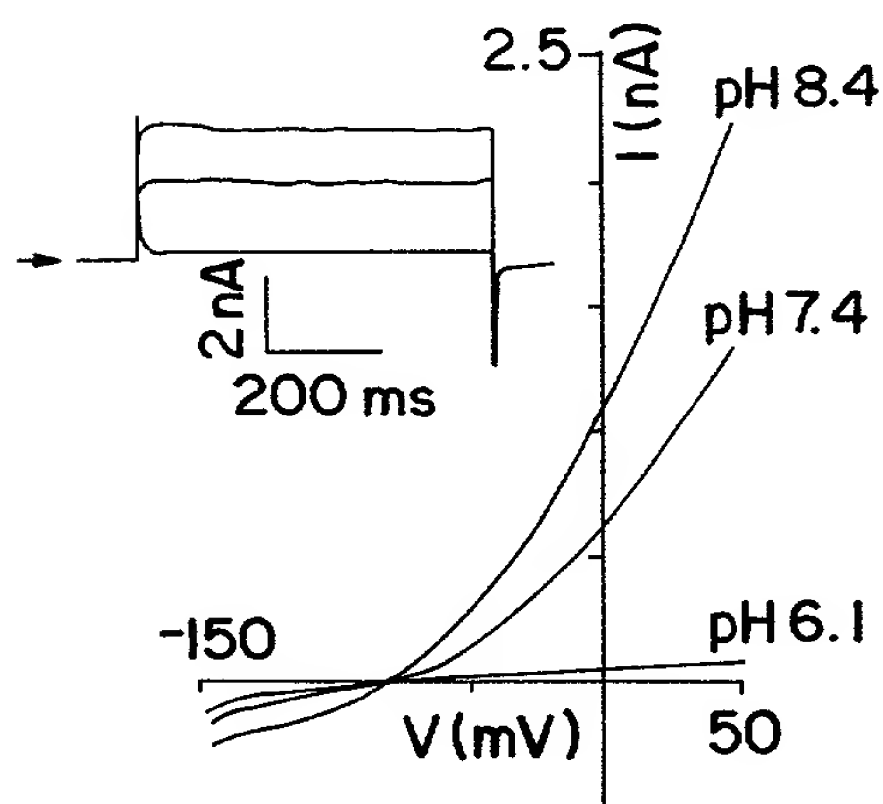


FIG. 13C

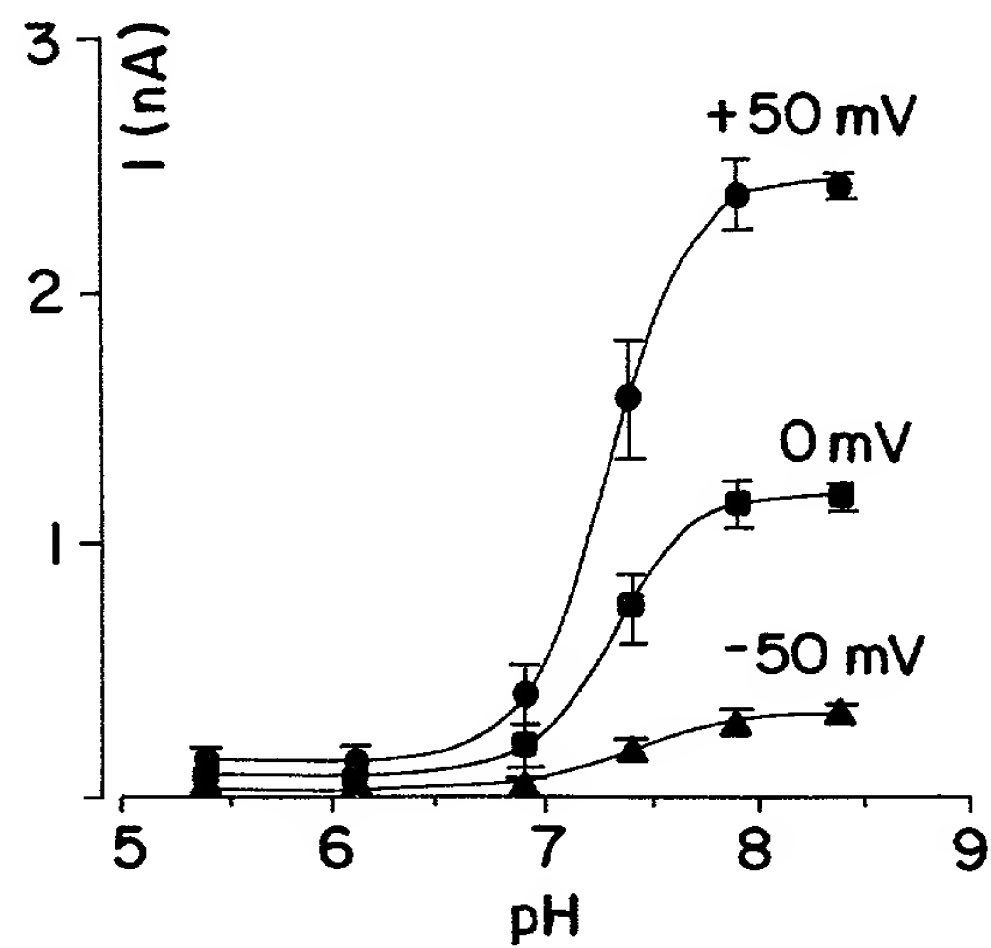


FIG. 13D